



The Green Thumb

The Magazine for Rocky Mountain Gardeners

Orchids

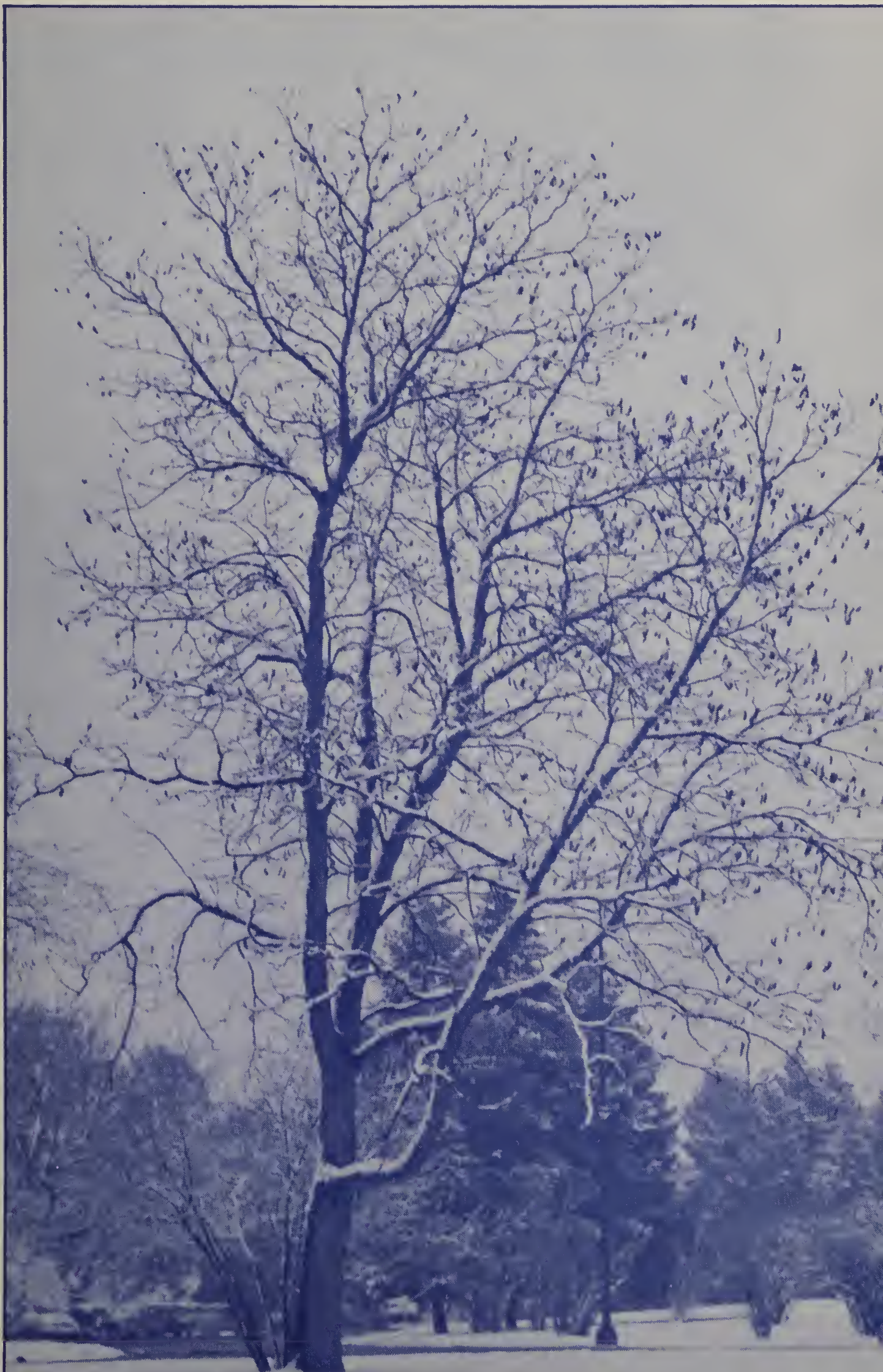
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House Plants

14

Propagation

17



JAN. - FEB.

1959

25 Cents



Close up of European elm scale that does serious damage to our American Elm trees.

This is the season to apply dormant oil spray to control scale insects.

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Seeds, fertilizers, insecticides, trellises, planters, large flower pots, peat, and potting soil.

Colorado Forestry and Horticulture Association

Organized in 1884

JAN. - FEB.

Vol. 16

No. 1

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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The Colorado Forestry and Horticulture Association

A non-profit, privately financed Association

TAbor 5-3410

1355 Bannock Street

Denver 4, Colorado

Members



MEMO

Calendar of Events

"Fun with Flowers" — A lecture and demonstration is followed by the making of arrangements. Each person brings containers, mechanics, and material. The workshops are open to everyone. Due to popular demand the workshops will be held each month at the following times and places:

Workshop No. 1—1422 Kenton, Aurora, Second Thursday, 9:30 a.m.

Workshop No. 2 — Lakeside Denver Dry Goods, 44th & Harlan, Denver, First Friday of each month, 10:00 a.m.

Workshop No. 3—Arapahoe County Fair Grounds, W. Belleview and Windemere, Littleton. Third Tuesday, 10:00 a.m.

Colo. Arborists' and Nurserymen's Short Course, Feb. 9-10, Student Union Bldg., Colo. State University, Fort Collins, Colo.

Feb. 2—Annual Dinner and Business Meeting, Colo. Forestry & Horticulture Assoc., 6:30 cocktails, dinner 7:00 P.M. Am. Legion Post No. 1, 1370 Broadway.

Feb. 4—Botany Club dinner meeting. Speaker will be Dr. Wm. Weber. Time and place to be announced. March 4 Botany Club will be colored slides shown by club members at Mrs. Alexander Barbour's house, 335 Humboldt at 7:30 p.m.

Feb. 11—Organic Gardening Club of Denver meets second Wednesday of every month, Horticulture House at 8 p.m.

Feb. 12—Denver Rose Society meets second Thursday of each month, City & County Bldg., Rm. 100, 8 p.m.

Floral Art Course: Opportunity School. Every Thursday 9 a.m.-11:30 a.m., 1 p.m.-3:30 p.m., 6:30 p.m.-9:15 p.m. There is no charge except for materials.

The Green Thumb Program — Every Saturday morning on KLZ at 10:15 a.m.

ANNUAL DINNER AND BUSINESS MEETING

THE COLORADO FORESTRY AND HORTICULTURE
ASSOCIATION

MONDAY EVENING, FEBRUARY 2, 1959

Cocktails at 6:30 P.M. — Dinner at 7:00 P.M.

American Legion Leyden-Chiles-Wickersham Post No. 1
1370 BROADWAY — Parking Available

M. Walter Pesman Noted Landscape Architect will Present a
Talk on European Gardens, Illustrated with Colored Slides

\$3.50 (Tax and Tip Included) Cocktails Extra

OPERATION 5000

AN EDITORIAL

It is predicted that 1959 will be a boom year for gardening. Nursery stock and seed supplies are plentiful, and chemical companies are boosting their production of fertilizers, fungicides, and insecticides to meet consumers' demands. We all know in our own area that housing is on the increase. With added emphasis on outdoor living, gardening interest is at an all time high. Requests for the services of Horticulture House have soared, but oddly enough our membership has not experienced this rapid up-swing. Manufacturers and suppliers mentioned above have taken advantage of this boom by putting on extensive sales and promotional campaigns. However, as a non-profit organization with a limited budget, we cannot afford campaigns to sell memberships. We can, though, as members, do more to promote the Association than we are doing now; but, like commercial firms, we have to be sold on our own product before we can sell it. For years we have been plugging along, doing much for horticulture in the Rocky Mountain area, but in doing so we have been overly modest about ourselves. Too few people know of the organization and its many benefits. It is up to us to tell them.

Let's take a quick look at our operation this past year to pick up a few selling points.

The Green Thumb, the magazine you are now reading, is one direct benefit derived from your membership. The staff and the editorial board are constantly seeking to improve its quality and readability. Again, your help is needed in the form of constructive criticism and suggestions.

The Helen Fowler library, one of the chief assets of the Association, has added many new books on current gardening subjects. It now contains over 4000 volumes and is one of the finest horticultural libraries in the country. Its usage has increased considerably and it is open Monday through Friday from 8:30 a.m. to 5:00 p.m. for your convenience.

The staff at Horticulture House handled over 4000 phone calls from members and others seeking advice on garden problems. In addition, better than 5000 reprints of special articles such as the Shade Tree chart, How to Prune Grapes, Roses for Beginners etc. were sent out in response to requests. These, The Green Thumb, library, and staff are all direct benefits available to you as a member. And your membership will mean more to you if you make use of them.

Now, what other accomplishments can we site for the passing year? Through your membership and additional contributions, we have sponsored an extensive educational program that has helped gardeners throughout the Rocky Mountain area. The voice of your Association reached out each Saturday to thousands of listeners through its weekly Green Thumb program on KLZ radio. A special series called *Garden Guide* was viewed in many additional homes each Wednesday evening this past summer on KRMA-TV. Talks and lectures were presented to 110 different groups which included garden clubs, homeowners, Girl Scouts, Campfire leaders, etc. with a total audience of 6000 people. We have coordinated activities with garden clubs, and commercial organiza-

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tions. In addition, garden tours and the garden fair have stimulated interest. Throughout the program gardening and home beautification have been encouraged. We have warned people of pitfalls in the gardening field such as fly-by-night operators and misleading advertising. So you see, your organization has had quite a hand in making the Rocky Mountain area a more beautiful and prosperous place. These are the facts. We do have something to crow about.

We are now entering a new year with new headquarters, and with new and closer contacts with garden clubs and other horticultural interests. Here is a golden opportunity to sell the Association!

With a membership of 5000 we could continue to meet the needs of this growing field. Your Board of Directors is now discussing plans for a special garden club membership rate that could increase membership by a thousand or more. This, however, is not enough. We need your help. If each active member would bring in only one new person, membership would be doubled. This shouldn't be difficult, especially when we look at the 500 new ones brought in by Clyde Learned in the past three years. Just think what we could do if everyone brought in two! *Sign up your member today. Let's get Operation 5000 under way.*

EVERYTHING FOR THE GARDEN**BARTELDES GARDEN CENTER**

East 40th Ave. at Jackson (2 Blocks West of Colo. Blvd.) FL 5-7361

ORCHIDS AS HOUSE PLANTS

By REBECCA TYSON NORTEN

PART II

FOR THE WINDOW SILL

Cattleyas and their near relatives Epidendrums offer a tremendous variety of colors and shapes. Cattleyas are perhaps the most familiar of all orchids. The large, ruffled flowers come in shades of pinkish lavender, deep tones of violet and red-violet, yellow, bronze, and white. You can buy either species or hybrid; the latter are generally richer, heavier flowers, although poor hybrids are not as good as species. It is wise to start with moderately priced mature plants. The easiest Cattleya of all to grow in the home is the species *Cattleya mossiae*, and it would be an excellent plant to start with. A kind to avoid if you intend to grow plants in a room used in the evening is *Cattleya labiata* and its hybrids, because these are short day plants. Long days prevent their flowering, and since people usually turn on lights in the evening in their homes, this automatically gives the plants long days. We should tell you, however, that the *C. labiata* hybrids are useful to the commercial growers because their flowering time can be controlled by the use of artificial lighting.

A less familiar but very attractive group of Cattleyas is called the bifoliate group, in which the smaller flowers are more waxy, more slender in their parts, but range from brown and green to white, often spotted with purple. In this group we particularly suggest *C. bicolor*, a tall, slender plant that has a cluster of five or six flowers, brownish green with a bright cerise lip.

There are hundreds of Epidendrums. Hybrids are rare, and with this genus usually the species are grown. We suggest *E. atropurpureum*, a brown flower

with a pink lip, which has pertly curved petals and sepals; *E. cochleatum*, whose slender green sepals and petals stream downward from a dark striped shell-shaped lip; and *E. ciliare*, whose white flowers have a fringed lip.

RULES FOR THE WINDOW SILL CARE

(1) Put the plants in a window. Let the sun shine on them as much as possible. Do not pull the shade across the window unless the leaves feel hot to your touch. Plants in the open air of a room will not get as hot as plants enclosed in a case, for the free air circulation of the room helps to cool them.

(2) Do not stand the plants over a radiator or let the hot air from a heating duct blow directly on them.



Cattleya bicolor

(3) Night temperature should be as close to 60° as possible, not more than a degree or two above, and preferably just under. Day temperature can be whatever is comfortable for human beings.

(4) Cattleyas and Epidendrums are epiphytes, evolved to perch above ground with their roots clinging to a branch or hanging in the air. When such plants are confined to a pot the roots must still have plenty of air. Soil is too compact for them, so they are potted in osmunda fiber (a fern root) or one of the chopped or shredded barks recently introduced. In either medium, water when the potting material approaches dryness. The medium must not be allowed to become water-logged or sticky from being constantly wet. To water, stand the plants in the sink. For osmunda fiber, fill the sink and let the water rise up

through the fiber, soaking it thoroughly. For bark, pour water through the pot several times till you are sure it is thoroughly wet. Then let the pots drain completely before putting them back in their places. Never let the pots stand in a puddle of water.

(5) Plants in osmunda fiber can be given a little complete fertilizer such as Hyponex ($\frac{1}{4}$ tsp. to a quart of water) once a month from spring through early fall only. Plants in bark require more frequent feedings. We recommend a fertilizer especially prepared for this medium, called Wonder-Lizer, available from the Rod McLellan Co., 1450 El Camino Real, South San Francisco, Calif. Use it according to directions, every two weeks.

(6) Humidity is not much of a problem for these two kinds. Some home growers like to stand the pots over a pan of wet gravel, and we rec-



Looking into an orchid case. The large white flower is *Phalaenopsis* whose flowers last for months.

ommended this before we tried it ourselves. We could not honestly see that the wet gravel contributed much, because the small amount of evaporation was quickly dispersed into the air of the room. Our plants did just as well without it. One grower rigged up a pan of water with a small aquarium heater in it, over which he built a rack to hold the plants. The larger amount of evaporation from the warmed water he found to be quite beneficial. I do not feel it necessary in most cases to go to this trouble, but it might be helpful in an excessively dry atmosphere. A humidity aid that really works and is easy to manage is to spray a fine mist of water over the plants once or twice a day, perhaps the first thing in the morning and again while the sun is shining on them. The mist should just wet the leaves and stems, and any roots on the surface or hanging out of the pot. The plants can readily absorb most of this water to make up for evaporation that takes place between times. It is also good to rinse off the leaves under the tap when watering the plants.

THE ORCHID CASE

It may seem odd to recommend growing "warm" orchids in a case in the same room with "intermediate" orchids not in a case—but it is possible. The night temperature requirements of these two groups meet at 60°. For *Phalaenopsis* and *Dendrobium phalaenopsis* the temperature must not go below 60°, and it is preferable to keep it a little above. The air directly in front of a window is likely to be a little cooler than that in the room, due to heat loss through the glass. The air in the orchid case is protected from this heat loss, and the temperature within it is likely to be that of the room. Therefore, plants directly in the window will have a

night temperature a bit cooler than plants in a case, which is just the way it should be for the two groups we are discussing.

Phalaenopsis is a serenely beautiful orchid that has round, flat, velvety flowers borne on a long stem. They come in white with a touch of yellow in the lip, or pink. These plants do not send up new stems from a rhizome each year as do the other three kinds described herein, but instead continue to make new leaves from the top. Quantities of hybrids are available, while the species are difficult to obtain. *Dendrobium phalaenopsis* has flowers blended of purple and white, which are shaped somewhat like *Phalaenopsis*, hence its name.

These are both epiphytic orchids and require good air circulation, and are potted in the same materials as Cattleyas and Epidendrums. Their leaves are not quite as hard and tough as those of the other two kinds, and they therefore need the higher humidity provided by the case. They do not like too close an atmosphere (nor do any orchids, for that matter) and the case should be tall enough to provide a goodly volume of air. Top and bottom ventilators should be provided.

You have to be more careful about the build-up of heat for plants in a case than for those open to the air of the room. The case can become a veritable oven when the sun shines into it. Yet to do their best the orchids in the case must have some sun. Ventilating and shading the case must be carried out with a fine hand.

The tendency is to keep a case too damp. This can lead to over-wet conditions which encourage the growth of algae on the pots and an unhealthy soggy of the potting medium. Fungus diseases thrive in a damp, close atmosphere. It is better to let the air



An Orchid Case from *Orchids As House Plants*—courtesy D. Van Nostrand Co., Inc.

in the case dry off a bit each day, not trying to keep the humidity always high.

RULES FOR CARE OF PLANTS IN AN ORCHID CASE

(1) Put the case close to a bright window. Let the sun shine into it, but watch carefully to see that the air in the case does not become too hot. As soon as the sun swings around onto

the case, open a top and bottom ventilator so that the heated air can move out. Keep an eye on the thermometer and feel the leaves. If the temperature goes up to 72° pull a thickness of cheesecloth across the window. We keep a piece pinned to the drapery at one side, ready to be stretched across. Try not to let the temperature go above 80°.

MEMBER

*Careful Maintenance of Shade Trees*

This season we recommend dormant spraying of
American Elms for scale

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(2) If the case is near a radiator or hot air duct, even though it is protected by glass, this will allow the case to dry out faster and will necessitate more frequent syringing (misting) of the plants.

(3) Night temperature should be between 60° and 65°.

(4) Water just before the potting medium becomes dry. Do not water so frequently that the medium becomes sticky. It is not practical or necessary to move the plants to the sink, as the pan underneath will catch drainage water.

(5) Phalaenopsis and Dendrobium need more extra nutrients than Cattleya. Give Hyponex every other watering, if potted in osmunda. In fir

bark use Wonder-Lizer every other watering.

(6) Humidity in the case should be kept between 40% and 60%. With the ventilators open and the case warm, humidity will drop to the lower level. We like to mist the plants during this time. Misting may not bring the humidity of the air in the case up very much with the ventilators open, but it allows the plants to absorb water through their leaves. The humidity will build up again when the case is closed. This is a healthy situation. It is not possible to say exactly how often to use a mist spray. Your own judgment as you become used to handling the case will have to guide you. The main thing is not to let the foliage stay wet. It should not have water standing on it except for short intervals.

ANOTHER GREEN THUMB CONTEST!

First prize will be a tree donated by one of the nurseries for Arbor Day. Second and third prizes will be other plant material. Deadline for manuscripts to be in is March 10. Just write 400-600 words on My Favorite Tree. Black and white glossy photos are welcome.

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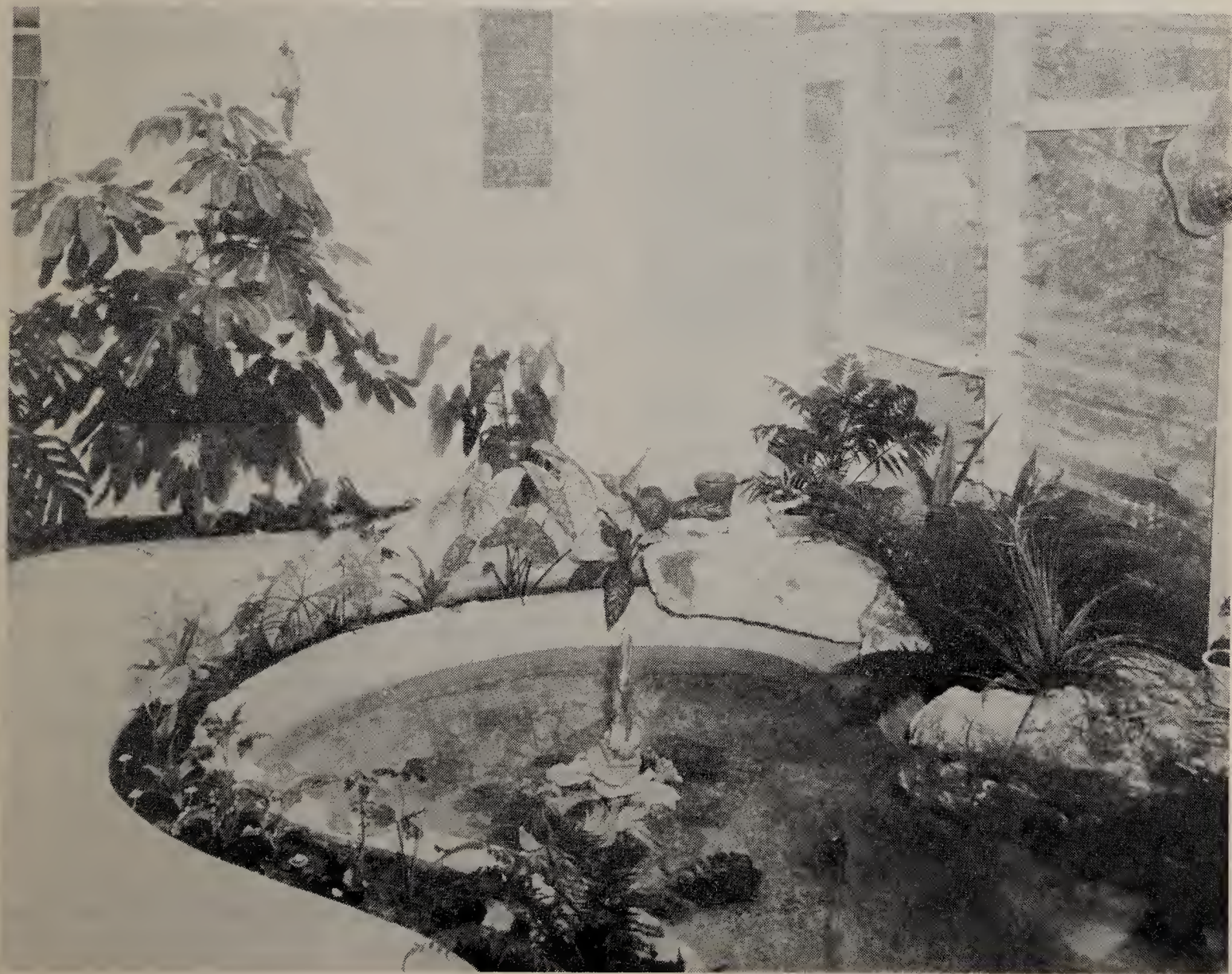


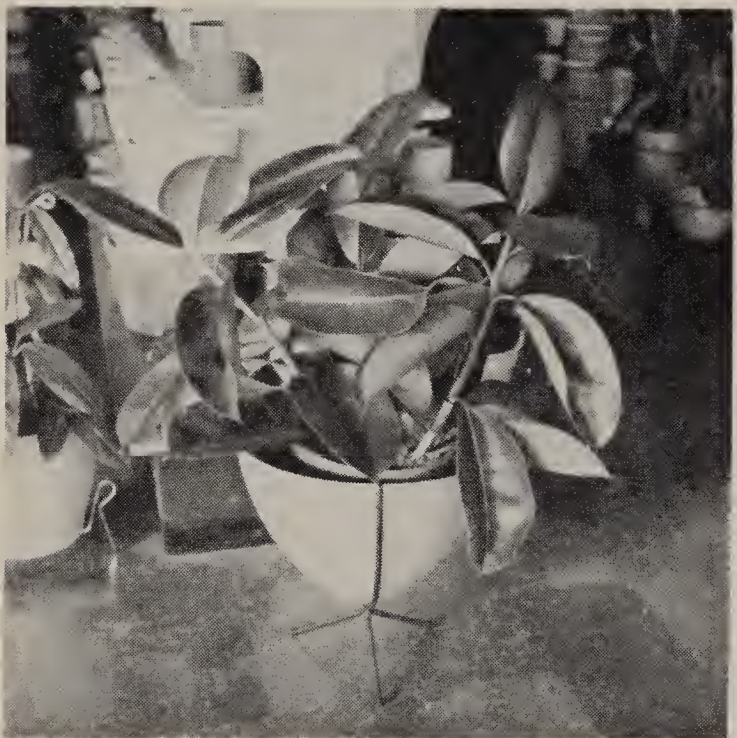
TROPICAL PLANTS ADD INTEREST INDOORS

Living, green accents in modern homes bring tropical lushness into everyday living. For wealth of foliage, few plants compare with those native to the tropics and for this reason they lend an exotic touch to even the most modest home. Interiors never look stiff or cold when graced with tropical foliage. These plants can be used in a variety of ways to brighten drab corners or to emphasize pieces of furniture. To an interior decorator of contemporary decor, they are an indispensable part of the furnishings. Look around your home and see if there isn't some corner that needs a touch of distinction.

Photos courtesy Am. Assoc. Nurserymen







HOW TO CARE

The requirements for successfully growing plants indoors depend largely upon selecting plants suitable for the location. Your nurseryman or garden center can recommend various plants and explain their more specific requirements in relation to their environment.

Some of the general things to be considered in growing plants indoors include:

1. Drainage — be sure to have plenty of pebbles or broken crockery in the bottom of your planter to prevent water from standing around the roots.

2. Soil — these requirements vary greatly. Good potting soils are available in small packages at your nursery or garden center.

3. Fresh air — be sure to open a window at least a little while each day.

4. Temperature — for tropical plants, a minimum of 45 to 50 should be maintained.

5. Air conditioning — watch carefully to make sure your plants are not dehydrated. You may need to sprinkle or syringe the foliage during the day.

6. Light — light provides energy for plants to make food and growth. Basic light needs must be considered.

1) *Monstera* 2) *Ficus elastica* or Rubber Plant
3) *Kentia* var. Palm

OR INDOOR PLANTS

While some plants will accept artificial light, or grow in shade, some require sunlight.

7. Water — since the amount required varies because of factors such as heat, light, humidity etc., you must watch the response of the plant until you get the “feel” of how often you will need to water. Most all plants, however, require a good soaking at least weekly, plus sprinkling or syringing the dust from the foliage.

8. Fertilizing — all plants require regular feedings, and a light application each month will keep them in healthy condition.

9. Grooming is an important factor. This includes pruning to keep the plant shapely, as well as removing old leaves, flowers, etc. The foliage needs cleaning, too.

10. Spraying for insects should be done as necessary. Remember, foliage plants are somewhat more tender than shrubs, and are easier to burn with strong spray solutions.

If you care for your plants, you will be rewarded with beauty and blossoms. Plants add accent, color and interest to the indoors. They brighten the home, are part of modern living.



4) *Philodendron cordatum* and *Sansevieria* 5) *Ti* plant 6) *Sansevieria*

GARDEN CLUB BRIEFS

By MRS. EDMUND WALLACE,
Federation of Garden Clubs

For the first time, the Colorado Federation of Garden Clubs is featuring landscaping this year. In some states, Landscape Schools similar to the Judging Schools are being tried. These have accredited teachers giving a 1-3 day course. To plan for beauty outside as well as inside the home is the objective.

After an exceptionally busy and eventful year of fine leadership, Mrs. John Nickels has been re-elected as state president and is starting the new year off representing the Federation on the Turf Advisory Committee which is concerned with lawn grass research. She is the first woman to be asked to join this committee.

The forming of three new garden clubs in and around Denver was announced at the last state board meeting by Mrs. James Tillotson, membership chairman. These are: the Fleur de Lis Garden Club of Harvey Park; the Southern Hills Garden Club of Denver; and the Louisville Garden Club of Louisville, Colorado. This

brings our total number of clubs to 112 with a combined membership of 3200.

Forming a new garden club needs organization as well as interest. Mr. Charles Drage, extension horticulturist at Colorado State University, has compiled a paper called "Organizing the Garden Club" which will be mailed to anyone contacting Mrs. John Nickels at 133 North Sherman, Littleton, Colorado.

The Federated Garden Clubs' Judges Council is starting a new program of study under Mrs. Ralph Lewin, new president of the group. This Council is made up of accredited flower show judges, and students who have attended flower show schools.

Through a "Memorandum of Agreement" arrangements have been made with the U.S. Forest Service, whereby the Colorado Federation of Women's Clubs may contribute toward the reforestation of an area within one of Colorado's National Forests.

"The whole range of nature is open to the gardener, from the parterre to the forest, and whatsoever is agreeable to the senses or to the imagination he may appropriate to the spot he is to improve; it is a part of his business to collect into one place the delights which are generally dispersed through different species of country."—*Whateley*.

PLANT PROPAGATION PRACTICES

By BILL LUCKING

This, the first in a series of articles as told by Bill Lucking to The Green Thumb staff, deals with hardwood cuttings.

PINCH OFF a sprig from your philodendron—everybody has one—and root it in water. You are repeating a method of propagation known at the birth of Christ. Or watch a child's delight and wonderment when he sees a tiny seed he has planted suddenly come to life and grow. His pride and joy are the same as an Egyptian child's living in 1000 B.C. This thrill isn't just confined to children. Grown-ups get the same "kick" when a newly planted lawn comes up an even emerald green (propagation by seed), or when a dieffenbachia house plant gets "leggy" or too big and a new plant is made by air-layering it, another method of propagation. Talk to any nurseryman — any real nurseryman — and he'll admit he feels almost a religious reverence for growing things. Aside from the fun of it all, it's a practical art, especially for those of you who are landscaping new, bare property.

Everyone knows how to multiply plants by seed. But how about sterile plants, plants that produce no seed? What then? Or plants which produce seed that won't "come true" i.e., seed that produces plants which do not necessarily resemble the parent. In such cases, vegetative methods are the only means of reproduction; they also

save time—mature plants are produced more quickly than by the seed method.

Propagation by Hardwood Cuttings



most people in the field will probably ever know. Anytime someone, amateur or professional, has trouble reproducing a specimen plant he calls on Bill. For years, those who have known about his skill and knowledge have wanted him to put this information in some concrete form for the benefit of others. Finally, he has consented to give *The Green Thumb* a consecutive series of articles—appropriate for each season—on plant propagation. We hope these articles will not only give homeowners and experts alike valuable and practical information, but that these articles will demonstrate how much "know-how" and patience are needed in the nursery business.

Propagation of woody plants by hardwood cuttings is an easy way to multiply certain plants you particularly like. These should be taken in January and February when plants are dormant. The wood should be clean and healthy, without injury or insect damage, and in size from 1/4 inch to 1/2 inch in diameter. Take your cuttings just below a node (bud) making sure there are at least two or more above

Bill Lucking needs no introduction—you all know him—or should, if you don't. A native Denverite, he's been superintendent of the City Nursery for 10 years and was manager of Roberts Nursery in Littleton, Colorado for many years before that. Considered almost a genius in his profession, he has forgotten more about propagating methods than



1) Taking canes for cutting 2) Making cuttings
3 & 4) Making and tying bundles

that. Make a straight cut with sharp pruning shears that will not mash the wood, and trim the twig or branch down to six or eight inches in length. A minimum of 10-15 cuttings should be taken, for all of them will not "strike" (produce roots and grow). Then, with thin wire (bailing wire is fine), tie them into bundles with attached labels identifying them as to variety.

They are now ready to be rooted. Bury them below the frost line, up-side down in moist sand. Water them well and fill in the rest of the hole with earth, and a layer of leaf mulch if possible. An earth basement or root cellar is an ideal spot to bury them since it is frost free, cool, and moist, but cuttings must be covered as they would be outdoors. This procedure is necessary in order to keep buds from developing before a callus forms on the bottom end. A callus is a white hard substance from which the roots grow. If buds start to swell before the callus forms, sap is taken away from the rooting end, inhibiting root growth. After the cuttings have been properly covered and watered in, forget about them until March. Then check for moisture. If the ground seems pretty dry a few inches down, give it another good soaking. Here in the Rocky Mountain region, uncover cuttings around the first of May—this date will depend somewhat on the weather. By then, callus and roots should be well formed and all danger of severe frost past.

Preparing the Soil for Planting Rooted Cuttings

Spade up the ground 10 inches deep over a large enough area to accommodate the individual cuttings planted two to three inches apart, and six or so inches deep. That is, leave at least two inches of wood above ground. Some sprigs may not have produced

roots but plant them anyway. Nurseries place cuttings in long furrows because of the quantity needed in commercial enterprises. After the ground is spaded furrows are drawn through the worked-up area and water is run through them. Cuttings can then be easily inserted in the water softened ground.

For a home gardener, the furrow method may be cut down in size to fit the available space, or a cold frame may prove more practical. In a cold frame rows can be as close as four inches. Do not use any fertilizer, but if the soil is heavy, peat moss, leaf mold, and sand should be worked in when it is spaded. Moisture is always an important factor in rooting hardwood cuttings. Never let them dry out at any time after they have been planted in field or cold frame. The number of strikes you get will depend on the variety of shrub or tree. Poplars, willows, and privets root readily, striking from 90% to 100%. Only 50% is considered good for plums (*Prunus cistena*). Some plants will root only from two-year old wood; for others, one-year old wood may be used. A few shrubs and trees any home gardener will find easy to propagate follow:

Cuttings Requiring One-Year-Old Wood

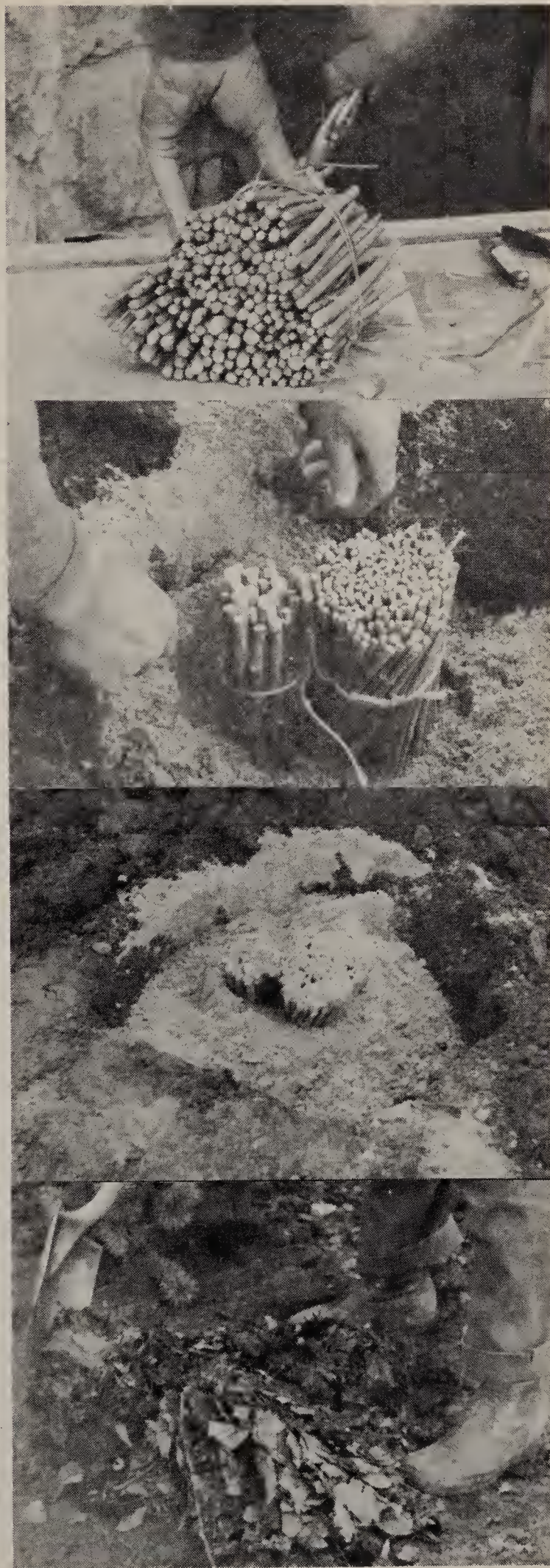
Shrubs: Coralberry, ninebark, privet, snowberry, Froebel spirea.

Trees: Poplar (Carolina, Lombardy, cottonless cottonwood, aspen), willow (weeping, Wisconsin, pussy, *Salix erota*).

Cuttings Requiring Two-Year-Old Wood

Shrubs: Forsythia, honeysuckle, dogwood, mockorange, Van Houtte spirea.

Trees: *Prunus cistena* (purple-leaf plum)—A little more difficult. A



5) Wiring several bundles together 6) Placing cuttings in hole 7) Covering cuttings with sand 8) Mulching storage area

minimum of 100 cuttings should be taken.

If you have luck with the above plants try some of the more difficult

ones. Remember, if one method doesn't succeed, others which you may try will be described in succeeding issues. Half the fun will be "discovering" your green thumb.

Through The Garden Gate

It gives me a slight pull on my heart strings to say goodbye to 1335. I will miss the garden gate, even as much as the library room. There was always a flowering jasmine to tell in yellow flowers "spring is coming" and later the fuzzy clematis with a stern warning "autumn is here".

What many things were born behind that gate. Under Mrs. Evans's firm hand and guided by her enthusiasm we revived the old Colorado Forestry Association (please remember her as the youngster who played a leading role in creating the National Forests). We baptized her son all over again and we married him to the Horticulture Society, an orphan girl. The best legal talent of Denver wrote the marriage stipulations with bylaws galore and repeated readings of minutes.

From this marriage came the following offspring:

HORTICULTURE HOUSE lovingly contributed by our president and her husband.

THE GREEN THUMB married to George Kelly and later to Pat Gallavan. The TREE RESERVES in many places. They ran away and left school. HELEN FOWLER'S LIBRARY. How are you Helen, dear?

The HERBARIUM by Kathryn Kalmbach.

The BATTLE FOR DENVER'S TREES.

Fred Johnson's and Walter Pesman's battle for STATE AND REGIONAL PARKS.

Charlotte Barbour's GARDEN TOURS.

Kenneth's GARDEN SHOW, starring Margaret Honnen.

Miss BOTANIC GARDEN our teenager, still a debutante with many suitors. The LILAC LANE, our beloved Milton Keegan's last task. Bob More's JUNIPERETUM; Clyde Learned's and others ROSE GARDEN.

The famous charge on City Councils and others to raise money for Botany's Education by the MO(O)RES Brigade.

And now, our new baby HORTICULTURE HOUSE AND BOTANIC GARDENS HOUSE nursed by Ruth Waring, Anna Garrey and many many others.

Let me know what and WHO I overlooked; nearly all of you.

A happy and prosperous (we need food and clothes for the baby) NEW YEAR to all of you.

—DEE

1959 All-America Selections

By W. RAY HASTINGS

'Pink Heather' alyssum, 'Jade Cross' Brussels Sprouts and 'Gardengreen' snapbean are the outstanding new varieties for 1959 introduction.

Dozens of other new flower and vegetable varieties were entered for testing in the twenty-six flower and twenty-three vegetable trial locations across the country before any were chosen as winners. Resident judges have two years in which to compare the entries with nearest similar kinds already in commerce, to score and evaluate, and to comment on each one.

Only the most worthy and superior have a chance for All-America award.

They must be widely adaptable and useful in order to compete in these trial locations from coast to coast and from southern Canada to the Gulf of Mexico.

A good example is sweet alyssum which has been a favorite for years and which generally grew as high as 12 inches. Plant breeders have developed more useful and colorful varieties having a solid blanket of bloom only 2 to 3 inches high with a spread of a foot or more per plant; others bloom 4 to 6 inches high.

Then came lilac coloring in addition to the whites. This progressed to



violet in Violet Gem, a 5 to 6 inch type, and finally the All-America winning violet, Royal Carpet with the most dwarf habit of growth.

This year the 1959 winner is 'Pink Heather' in the Gem or mounded type. The color is a heather pink, deep in tone in cool weather and along the coast, lighter to much lighter pink in hot, dry weather of normal mid-summer, then deeper pink towards fall. Pink Heather makes uniform edging, is free flowering over a long season, and is about the easiest of flowers to grow. It does well in most any soil and may be seeded directly in the desired location.

Alyssum is not a cut-flower. It is quick to bloom and an easy subject to bring color to the garden. Use it for edging walks, drives, lawns and flower beds and borders, in rock gardens and window-boxes. Pink Heather brings a new color to alyssum, not bold, but the soft color of heather florists use so freely.

There was a big increase in vegetable gardening over America in 1958. Seedsmen mention as much as ten percent increase over 1957. People realize that the only way to have really fresh vegetables, full of their fruit sugars, crisp and tender, is to grow them at home. Let them ripen on the bush or vine and pick them just in time for dinner. Diets and calorie counting are unimportant when we grow and eat our own fresh vegetables.

Snapbeans are called the meat of the garden. Cook them long and well—not half-cooked and kept bright green with soda! Boil them with salt pork or even with a ham hock for further flavor but cook them well for a square meal all by themselves.

1959 introduces a wonderful new garden bean. Can or quick-freeze any surplus while the bean is still at its early tender stage. Snapbeans don't



bear all season so short rows should be planted every ten days or two weeks to keep up a continuous supply through summer and fall.

'Gardengreen' is well named. This vigorous new bush snapbean grows to 18 or 20 inches, is resistant to mosaic, and tolerant to both halo blight and root rot. It is productive of 5½ inch, very straight, round-podded beans of bright dark green color. Pods are stringless and fiberless, smooth, tender and well-filled, easily pulled from the bush. And, pods are held up off the ground.

It is a distinct but improved Tendergreen type recommended for home and local market use, home canning and quick freezing. It is not intended for distant shipping and commercial processing.

'Jade Cross' Brussels Sprouts was the highest scoring vegetable entry in



seven years of trials and is awarded the only silver medal. This is believed to be the first hybrid Brussels Sprouts, the most refined member of the cabbage family. It is certainly the earliest, most uniform, prolific and vigorous variety of all, and as you can see in the picture, it is packed with "sprouts" from its base to its tip leaves. About 24

inches of heavy stem is loaded with sprouts an inch or more across.

Originated in Japan where we first obtained hybrid all-double petunias and seedless watermelons, Jade Cross is also a first and best. Plant for maturity in cool weather, early spring or fall, this cold-hardy delicacy is even improved by frost.

The seed crop was covered with ten inches of heavy snow last March and stood the coldest spring weather in fifty years at Kyoto, Japan. The heavy snow did break down many plants and so there is a short seed supply for introduction. However, seed firms were pro-rated about one-third of amounts contracted for and early orders by gardeners may obtain Jade Cross this season.

AAS is a non-profit organization for the thorough testing of new varieties for the information of the seed industry and for the benefit of the gardening public. It has nothing to do with the actual sales of seeds. Seeds of these award winners, best of their kind and for their purposes to date, should be obtained through usual reliable sources of seed supply. However, winners should be ordered or purchased promptly before these varieties are sold out for the season.

DECEMBER COVER PICTURE—SOUTH ST. VRAIN CANYON BY CLYDE LEARNED. FRONT COVER—KENTUCKY COFFEE TREE IN CHEESMAN PARK BY PAT GALLAVAN.



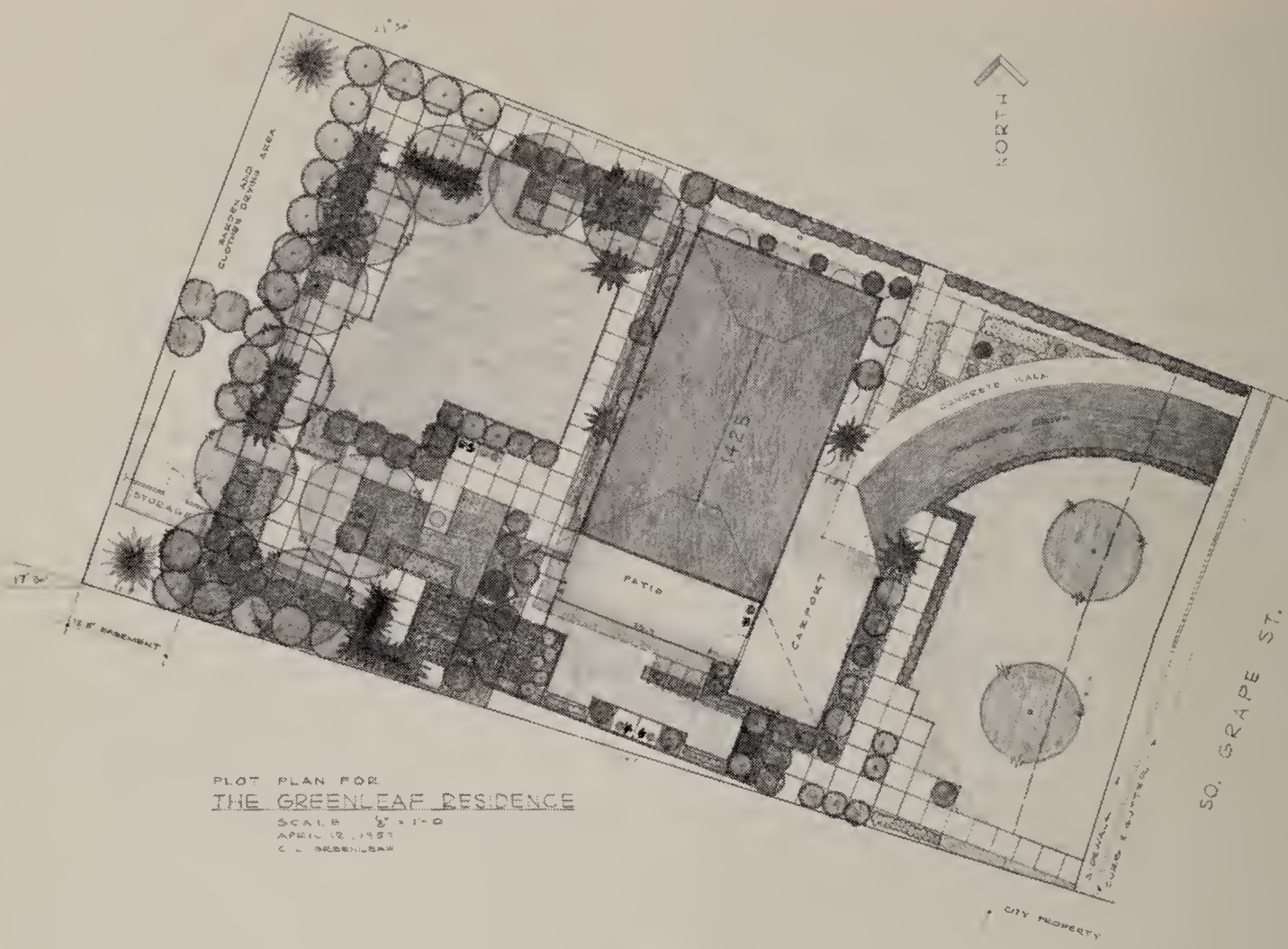
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HOW I LANDSCAPED MY BACKYARD

By CLAYTON L. GREENLEAF, *Architect*

In the beginning there was pasture-land. Then contractors built houses with driveways, incinerators, and clothes lines. The last two were located so as to divide the backyard into two areas which gave me my first design idea, that of establishing "formal" and "informal" activity areas with a partial barrier of some sort between.

However, I'm getting ahead of my story. A glance at the accompanying drawing shows that the south-facing patio is ideally situated for an enclosing fence. Therefore during one winter I busied myself in the basement designing and building eighteen panels, four by five feet in size. After the wind blew away our grass seed in the patio

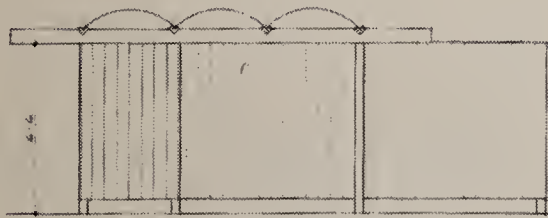
area it seemed wise to provide more than just a straight fence on the west edge so I zigzagged the layout to provide rigidity. The following spring I mounted the panels on 4x4 redwood posts with carriage bolts. They shut off direct view but allow air to circulate freely. The patio shall be completed with two gates, one dutch-type, which are ready but have yet to be hung.

The only other construction contemplated consists of three benches, a sculpture panel, grape arbor and a sun shade across the west elevation of the house. A storage shed was completed last year. It is entirely demountable having also been con-

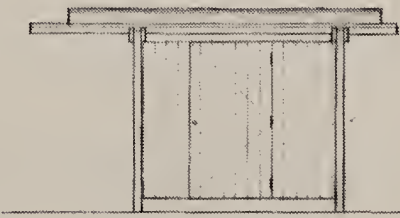
structed with bolted panels. The arbor and sun shade are projects for spring. Shade will be made by attaching two-inch galvanized wire netting to the base of the house and inclining it upward to meet the outer edge of the two foot eave. Once flowering vines have covered the netting we can open our awning-type windows into cool, fragrant shade. By choosing a deciduous vine the sun will help warm the house in wintertime.

In spring and summer while driving around the city, my wife and I recorded which plants were blooming, their color, and time and length of blooming period, so that we would know what plants grow well in this area. It also helped in the plan for continuous bloom. After thus acquainting myself with what plants seemed to be the most popular, I

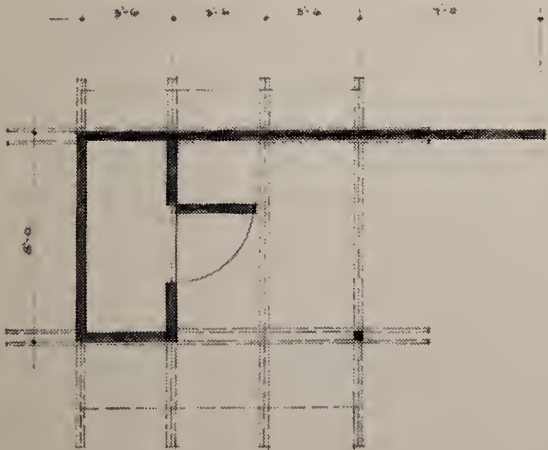
began to explore the printed matter available. It was soon apparent that there was no one publication which suited my requirements. Therefore, I undertook the large task of making a list of plants and their characteristics using George Kelly's "Rocky Mountain Horticulture is Different" and the July, 1953, and February-March, 1955, editions of *The Green Thumb* as my foundation. What a wealth of information can be obtained from these booklets! Some of the categories with which I subdivided each Green Thumb—rated "AA" plant are as follows: common name, Latin name, mature height, speed of growth, color of flower, winter color, time of bloom, fruit, location (sun or shade), shade cast, pests, diseases and remedies, when to trim or prune, whether deciduous or evergreen, etc. I now have



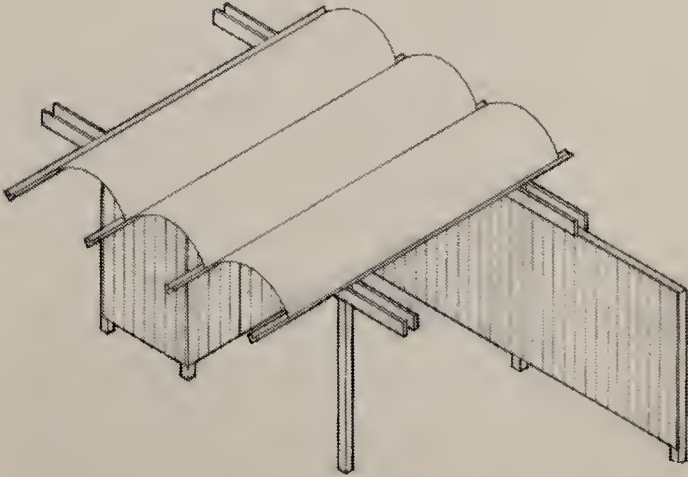
FRONT



RIGHT SIDE



PLAN



ISOMETRIC VIEW



this information in tabular form. The result is certainly worth the effort expended.

Thus armed with a comprehensive list, I was now ready to enter into the design of the ground space. In this regard two articles greatly influenced my basic thinking. One was in "Progressive Architecture," September and October, 1947, entitled "Modular Gardens" and the other was from the book, "Landscaping for Western Living" published by Sunset magazine. The illustrations of modular arrangements in garden spaces were exceedingly attractive and held innumerable possibilities for pleasing design. My first problem was to establish the module size. (Module—any arbitrary surface unit of measure used throughout a particular design. Ed.) Since the yard was the usual small subdivi-

sion plot, I thought it advisable to keep the module small, yet large enough to contain most shrubs, so I adopted a three foot square. Now, again because of the small lot, it would be to my advantage if I could create an illusion of a larger space. I, therefore, provided a visual barrier to prevent sweeping the entire yard at one glance, using curiosity to help sustain interest. Next came the tall shade tree to look upon, walk under, and provide the necessary shade for the patio in late afternoon. Then followed smaller flowering trees—some of which bear fruit—in a gentle curve used to ease the uniformity of the module. A tall hedge was planted across the back of the yard and partially returned along the sides to fulfill the desire for privacy, hide neighboring back yards, and contain the view. This allows us to

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be neighborly while giving us considerable privacy. Finally, two tall evergreens will be placed in the rear corners of the lot to define our spatial boundaries. With the foregoing items located, one merely has to fill in the module with the desired plants so as to obtain a pleasing relationship of size, color, circulation, etc.

So this was pastureland. It served well the purpose for which it was intended, but upon the removal of

cattle and the addition of humans, this land had to satisfy new and complex demands. We are always aware of our sensory perceptions and therefore try to attain more pleasing sights in color and shape, more profuse fragrances to thrill the sense of smell, and varying textures in planting and paving. We are better men when we are not satisfied to merely exist. Indeed, a human being has an obligation to improve his environment wherever and whenever he can. This I have tried to do.

PASSING OF AN OUTDOORSMAN

Colorado conservationists lost a powerful friend when Dr. Raymond Lanier was killed in a hunting accident November 24th.

He had made a name for himself, internationally, in his chosen field of medicine and he was an enthusiastic sportsman, but he will be remembered the longest for his work in conservation—especially for his efforts in encouraging the Wilderness bill. He was not a man to just talk about the things he believed in, he worked for them in every way he knew. Just a few days before his death he took a car load of men to Albuquerque to testify in the hearing held there on the Wilderness bill. His talk on this occasion was a forceful appeal for the preservation of wilderness areas. He was also the state chairman of conservation for the Izaak Walton League.

We like to think that there is no great loss without some small gain. In searching for the small gain in this sad and sudden passing, there are two items: He died as such a man would choose to die, if he could, with his boots on; and his friends do not intend to let his work go unfinished. They are planning a memorial fund which will go to help establish some suitable wild area. You will hear more of this soon, when further plans are made.

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Flowers Around The World

By OLAUS J. MURIE

Dr. Olaus Murie, director of The Wilderness Society, is an authority on mammals and wildlife, and author of many recent books and magazine articles, notably The Elk of North America.

This afternoon I received from Norway several pamphlets, "Norges Planter," depicting the plants of Norway. As I look at these beautiful color pictures of the Scandinavian landscape alive with bloom it gives me a nostalgic feeling, for last spring Mrs. Murie and I had an opportunity to visit the Scandinavian countries. We also had a brief look at the beautiful English countryside.

What I would like to speak of here is the attitude of the people we met over there. So many of the houses had boxes of flowers blooming in the windows, many in the windows of business houses. The gardens were full of flowers, and there were trees everywhere. The love of all these people for natural beauty was so evident, and in the bookstores we found a great array of attractive books on native birds and mammals, wild flowers, garden flowers.

The Scandinavian people do not have the incomparable opportunity we have over here to save large wilderness areas, but they are doing what they can, and enjoying their wilderness to the full. The desire for wilderness atmosphere is world-wide. In England many areas are being dedicated to be left as nature made them. I learned about a preserve in Spain, where flamingoes and many other rare birds are protected. I recently received a pamphlet from New Zealand, describing an extensive wilderness area newly established within one of their national parks. When we were in New Zealand several years ago, we were thrilled by their beautiful countryside. There too, we saw extensive flower gardens around every home, and many had

planted some of the lovely native trees in their gardens. New Zealand has jungle-like forests, with tree ferns and many types of forest growth. Having once seen these, it is easy to understand why its people are working to save parts of the landscape which are still undeveloped. There is also an active Forest and Bird Protection Society similar to some of our groups over here.

I like also to remember our experience in Alaska a few years ago. Under the auspices of the New York Zoological Society and the Conservation Foundation, our party went up into the east end of the Brooks Range. Some people think of the arctic as a barren wasteland. Rather, it is a land of beauty. Our base camp was about 200 miles north of the Arctic Circle, yet around us were blooming innumerable flowers. There were scattered groves of trees even that far north and we identified 85 species of birds. Caribou, moose, wolves, foxes and many other animals were plentiful.

In Scandinavia last spring, we again found birch trees, cotton grass, ptarmigan, and the midnight sun—just as we had seen them in beautiful Arctic Alaska. It is a joy to find these circumpolar species in various widely separated regions in their appropriate environment.

On our return to the towns of Alaska after our season in the Arctic we met with Garden Clubs and showed color slides of the Brooks Range country. All the club members were enthusiastic about the beauty of the Arctic, and about saving that big area for all time for the people. These

groups, together with the Izaak Walton League and other sportsmen's groups, and a Chamber of Commerce, all came to our support, and now we have the Arctic Wildlife Range formally designated by the Secretary of the Interior.

Throughout the world we still have places of wild beauty, and we are fortunate to have some of the finest in our western states. But—if we want to keep them—we have to say so! Do we, as Americans, believe that these superb areas are going to be good for us in the years to come? There is, truly, a growing demand for this kind of experience. Garden Clubs, sportsmen's clubs, a great variety of organizations, are now saying that we *must* save these areas, now, before it is too late.

We of The Wilderness Society are of course dedicated to this program for public welfare. And we are so happy that we can co-operate with so many other organizations having similar objectives. In this co-operation, in this understanding, is our hope for the future of wild beauty, around the world.

SHADE TREE CONFERENCE MEETS IN CHICAGO

The 14th annual meeting of the Midwestern Chapter of the National Shade Tree Conference will be held February 18-19-20, 1959, in the LaSalle Hotel, Chicago, Illinois. Problems of concern to all who are interested in the care of trees and shrubs, either as a home owner or a professional horticulturist, will be discussed. Attendance is not restricted to membership in the Conference. Registration will start at 8:30 A.M. February 18. Equipment and supplies used in arboricultural and gardening work will be on display throughout the three-day meeting. An attendance of about 400 is expected.

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WHAT'S NEW?

By PAULINE ROBERTS STEELE

SPRAY AWAY YOUR GARDEN TROUBLES IN '59

You can spray away some of your worst garden troubles this year with some new products added to the garden chemical line. The new additions include two specialty weeds killers, a garden-size package of a topflight tomato and rose fungicide, and a new wettable-fungicide combination for use in hose sprayers.

All four products are formulated for use in hose sprayers or commonly used garden sprayers. They represent further advancement by providing small home gardeners with easy-to-use formulations of individual and combination pesticides which have proved effective in commercial horticulture.



as directed. It is a wettable powder, and a four-ounce canister treats 1,000 feet.

Du Pont Crabgrass Killer is a liquid material that is fast-acting and causes little setback to desirable grasses.

"Manzate" maneb fungicide is a product that has made an outstanding record on hundreds of thousands of acres of commercial tomato fields where it has been unexcelled for control of the five major fungous diseases attacking tomatoes. It has also proved to be an excellent control for black spot on roses in commercial plantings, with the special advantage of being light-colored.

The fourth new product is a new insecticide-fungicide combination and one of the few that can be recommended for grapes. It is also one of the first wettable powder pesticide combinations designed for easy use in your hose sprayers. Called Du Pont Combination Garden Spray, it can be used on flowers, ornamental shrubs, vegetables, fruit trees and berries. That just about covers everything for small home gardens. So for the new year we wish you trouble-free gardening with these new aids.



Neburon, a new chickweed killer, was introduced to commercial nurseries last year, and its uses are now being extended to benefit home owners. It will control common chickweed and perennial mouse-ear chickweed at any stage of growth without injury to established lawns when used

LAWN GRASS RESEARCH

Turf Grass Association

Lawn grass is important to more people than any other single crop. It is of direct concern to over 500,000 home owners, and it has been estimated that some \$124,000,000 is invested in Colorado lawns. Today it costs about \$3,100 to prepare the soil, seed, water, and establish an acre of lawn area. The labor, cost of water and watering, fertilization, equipment, control of turf weeds, disease, and insects all add to high annual maintenance costs. Nearly all people in Colorado at some time during the year are concerned with lawns on public grounds, parks and parkways, football and athletic fields, cemeteries, and general recreational areas. This means that turf management research and extension service programs have an opportunity to render service to the largest number of people over the state of Colorado. Home lawn care has become a major recreational activity in Colorado today, and as the state becomes more urbanized the use of turf becomes more important each year.

State funds are needed to develop an intensive program on turf management, to conserve water supplies, to test and develop drouth tolerant grasses, to control weeds, diseases and insects, to study fertilization, to develop low cost equipment, and for educational programs. A small investment in such a program will return many more dollars to all parts of Colo-

rado than the annual cost. Stretching and conservation of water supplies alone would more than pay for the annual cost. It is a state-wide program that should be of vital interest to all Coloradans.

A serious outbreak of turf diseases occurred in Colorado in 1958. Thousands of calls were made to county agents' offices for accurate and reliable information on control. There were over 700 samples of diseased turf sent into the Plant Disease Clinic for identification. If there has been an adequate research program underway, more accurate control measures could have been made to the people. When about \$37,000,000 is expended each year in Colorado for lawn maintenance, loss of turf becomes of major importance to large numbers of people.

In addition, grass research on drouth and disease resistant grasses will be of direct benefit to farm and ranch owners in Colorado. The state itself is interested in grass and ground covers to control erosion along roadsides of its extensive highway system. Such a program is essential and will benefit the entire citizenry of Colorado.

Provision to put this research program into operation will be presented to the state legislature when it convenes in January 1959. You can help initiate this program of lawn grass research by contacting your state representative and advising him of the importance of this bill.

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SWINGLE MEMORIAL FUND

We are all interested in some phase of ornamental horticulture. We love the work and would like to see the status of horticulture in this area improved. We are inclined occasionally to do some "bellyaching" about the lack of definite answers to our many problems and the public's general lack of appreciation for our work. Very little organized effort has been made to date to do "something about it," so you will be interested to know that a start in the right direction has been made.

The two Swingle Study groups elected two men each to serve with Mrs. Swingle as trustees of the Swingle Memorial Fund. These are: Earl J. Sinnamon, Patrick J. Gallavan, Lewis D. Hammer and George W. Kelly. They have met twice and made several definite plans.

The fund will be retained by this group, put out to interest, and the income from it used (at present) to assist a worthy student in Plant Science (especially Ornamental Horticulture) at Colorado State University by paying his tuition, \$117.00, during his Sophomore year. The fund now amounts to about \$2400. and we hope to increase this considerably in future years.

All members of both Swingle Study groups have assessed themselves \$10.00 per year to add to the fund. We anticipate that many friends of horticulture will contribute unexpected windfalls—that may come their way—to help bring this amount up to the

point where the interest will really amount to something.

The original plan was to combine a scholarship with some required research in horticulture, but this seemed impractical until the fund was larger, so we are planning to do some experimenting among ourselves under the direction of a small sub-committee. Some may contribute their time, some material, and others money, to conduct experiments on the most urgent problems. Suggestions include:

Lawn diseases	Soil conditioners
Rose diseases	Effective watering practices
Weed control	Cedar-hawthorn rust
Systemics	Insecticides
Winter protection	Fertilizers
Chlorosis	Plant growth control
Fire-blight	
Crab grass control	

We appreciate the contributions which have been made to date to this fund and hope that the small effort to use this fund—to help pull ourselves up by our own bootstraps—will encourage further contributions. We, as trustees of this fund, are here to do your will and to gradually improve the standing of Ornamental Horticulture in this area so that we may all work in it with confidence, with the respect of the public, and with comparable remuneration.

GEORGE W. KELLY,
Chairman

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Seasonal Suggestions

January and February are restless months for the gardener. This restlessness is usually prompted by a sudden flood of colorful seed and flower catalogues in the mail. From near and far come these illustrative brochures extolling the merits of every plant that grows. Who can view these beautiful flowers without dreaming of a gorgeous flower garden next summer? Enjoy these booklets to your heart's content, but before you buy, check the hardiness of each and every plant. Remember, "Rocky Mountain horticulture is different."

Think too, about where these plants will go in your garden. Sure, there's always a spot, but is it the right one? These lazy months can be the most productive ones for your garden if you will but spend some time planning. The basic elements of design are just as important in the garden as they are for the interior or exterior of your home. Balance, scale, rhythm, contrast, dominance, proportion are all necessary in a well-designed garden. Now is the time to study and become acquainted with these terms and other elements of good landscaping. There are many good books in our library that can aid you. You can learn by studying other gardens. If you want the best, a little money spent now for the services of a qualified landscape architect will pay rich dividends in garden beauty for the future.

CARE OF HOLIDAY GIFT PLANTS

Start withholding water on your poinsettia as soon as the flower bracts have dropped. When it is defoliated, move it to a cool place for storage until mid-May at which time cut stems back about six inches. Repot in light loamy soil and set it out in the garden. Bring it in in early

September, fertilize it, and place it in a sunny window away from drafts. Bloom is induced by short days, so keep it out of artificial light in the evenings. Cyclamens too should be allowed to go dormant after blooming. Store in a cool place until August. Then repot and place them in a sunny but cool exposure for they flower best at temperatures from 50 to 60 degrees. Water frequently and thoroughly. Azaleas also need cool temperatures—65 degrees and high humidity—to bloom well, but unlike the above plants, they do not need a complete dormancy period—merely a resting period of several months induced by cool temperatures of 40 to 50 degrees when they are brought indoors in early September. So for the present, keep them cool (50 to 65 degrees) and well watered. Place them outdoors in late May. For the care of foliage plants see P. 14.

TREES AND SHRUBS

Troublesome pests such as the European elm scale, oyster shell scale, and spruce gall aphid can be controlled by dormant spraying. Check with your arborist so that he can schedule your trees in his spray program this spring.

Dead or weakened wood in trees and shrubs is an ideal breeding place for disease and insects. All branches broken or split by snows and winds should be removed or repaired as soon as possible. Long range forecasts indicate sufficient moisture for these two months but should they turn out dry, get out the hose and soak your trees and shrubs.

BEDDING PLANTS

While the majority of plants can be seeded in March, a few like verbenas, salvias, double petunias, and coleus

(from seed) should be planted in early February in flats indoors. See the 1958 March Green Thumb for seeding instructions. Also cuttings from geraniums should be made now and rooted indoors for plants to be ready to put outdoors in May.

FORCING BLOOMS

If you're anxious to see a few fresh flowers, try forcing branches of early blooming shrubs like forsythia, flowering crabs, and flowering almond. Crush the base of the stems, place them in cool water out of the light for a few days. — Pat



If it is true that a nurseryman can not make money if he handles over 85 kinds of plants, we are in for some slim eating because we have over 800 kinds of trees, evergreens, shrubs, perennials, vines, and roses when our stocks are complete about the middle of March. There will be just about everything that anyone would want to plant for permanent effect or to play with in protected places. There is no longer any reason for sending to questionable out-of-state sources for the plants you want.

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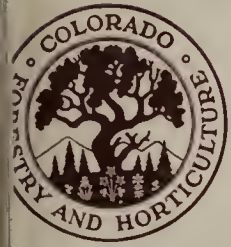
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The Green Thumb

The Magazine for Rocky Mountain Gardeners



End of An Era

HORTICULTURE HOUSE

1355 BANNOCK

DENVER, COLO.

PRESIDENT'S
REPORT

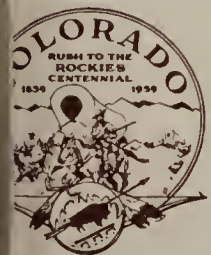
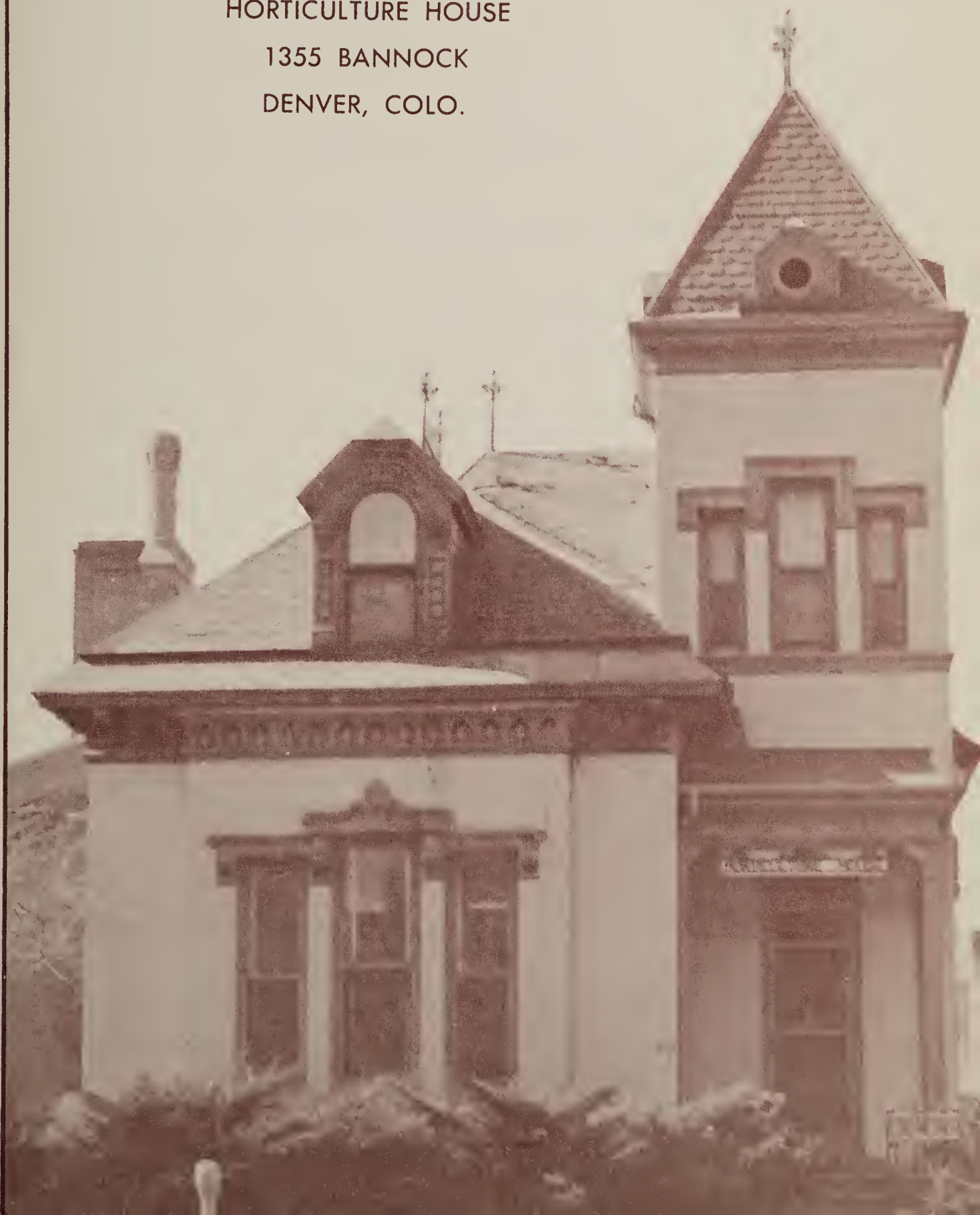
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LIVING WITH
ROSES

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SEED
PROPAGATION

PAGE 53



MARCH

1959

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MARCH

Vol. 16

No. 2

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The Green Thumb

Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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The Colorado Forestry and Horticulture Association

A non-profit, privately financed Association

TAbor 5-3410

909 York St.

Denver 6, Colorado

Calendar of Events

"Fun with Flowers" — A lecture and demonstration is followed by the making of arrangements. Each person brings containers, mechanics, and material. The workshops are open to everyone. Due to popular demand the workshops will be held each month at the following times and places:

Workshop No. 1—1422 Kenton, Aurora, Second Thursday, 9:30 a.m.

Workshop No. 2 — Lakeside Denver Dry Goods, 44th & Harlan, Denver, First Friday of each month, 10:00 a.m.

In the last Green Thumb, Mr. Greenleaf's article, "How I Landscaped My Backyard," was the last (but far from least) winner in our contest. We've had several calls commenting on how much could be learned from the article and we heartily agree. If more people would *plan* as carefully

Workshop No. 3—Arapahoe County Fair Grounds, W. Belleview and Windemere, Littleton. Third Tuesday, 10:00 a.m.

Mar. 11—Organic Gardening Club of Denver meets second Wednesday of every month. Auditorium of Denver Labor Center, 360 Acoma St., 8 p.m.

Mar. 12—Denver Rose Society meets second Thursday of each month, City & County Bldg., Rm. 100, 8 p.m.

A Local Mushroom Society is now being formed for field trips, study, cookery, etc. Anyone interested please call Hale F. Clark, RAce 2-0076, evenings.

Floral Art Course: Opportunity School. Every Thursday 9 a.m.-11:30 a.m., 1 p.m.-3:30 p.m., 6:30 p.m.-9:15 p.m. There is no charge except for materials.

The Green Thumb Program — Every Saturday morning on KLZ at 10:15 a.m.

as Mr. Greenleaf has, Denver would truly be the Queen City of the Plains.

We cannot take our bush of winter jasmine with us to our new home. We are, therefore, offering cuttings from it for 10 cents a piece. They root easily and have lovely yellow blooms much like forsythia. COME AND GET 'EM.



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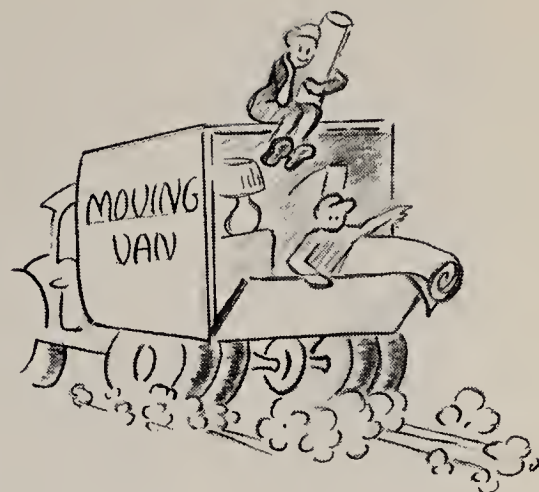
Point 17

IN the report of the second Ten Year Planning Committee, February 1954, we find that point No. 17 reads as follows: "This Association should co-operate with the various plant societies to help establish a garden center, possibly in connection with the Botanic Garden, when the present location must be abandoned."

Now, almost five years later to the month, this is an accomplished fact. As of March 15 our new address will be Botanic Gardens' House, 909 York Street. The spacious Hartner house will not only house our offices and those of the Botanic Gardens but it will be the headquarters for the Colorado Federation of Garden Clubs as well. In addition, all plant societies and other horticultural groups will be encouraged to meet there.

We'll all miss Horticulture House with its quaint cupola and beautiful garden, but knowing that this move is part of an over-all plan makes moving a bit easier.

May our Association reach even greater horizons of horticultural achievement at 909 York Street!



Auld Lang Syne

REMEMBER the old plant auction in the parking lot behind Horticulture House? A lot has happened since then and for the past two years it has been held in conjunction with our Garden Fair. This year, because the Garden Fair is a separate organization, we will be going back to our original-type auction. We plan to hold it in late April or early May at our new headquarters at 909 York Street. Tentative plans indicate it will be a gala affair with fun and garden bargains for everyone. Be sure to keep this auction in mind if you are in the market for any plants.

MEMBER

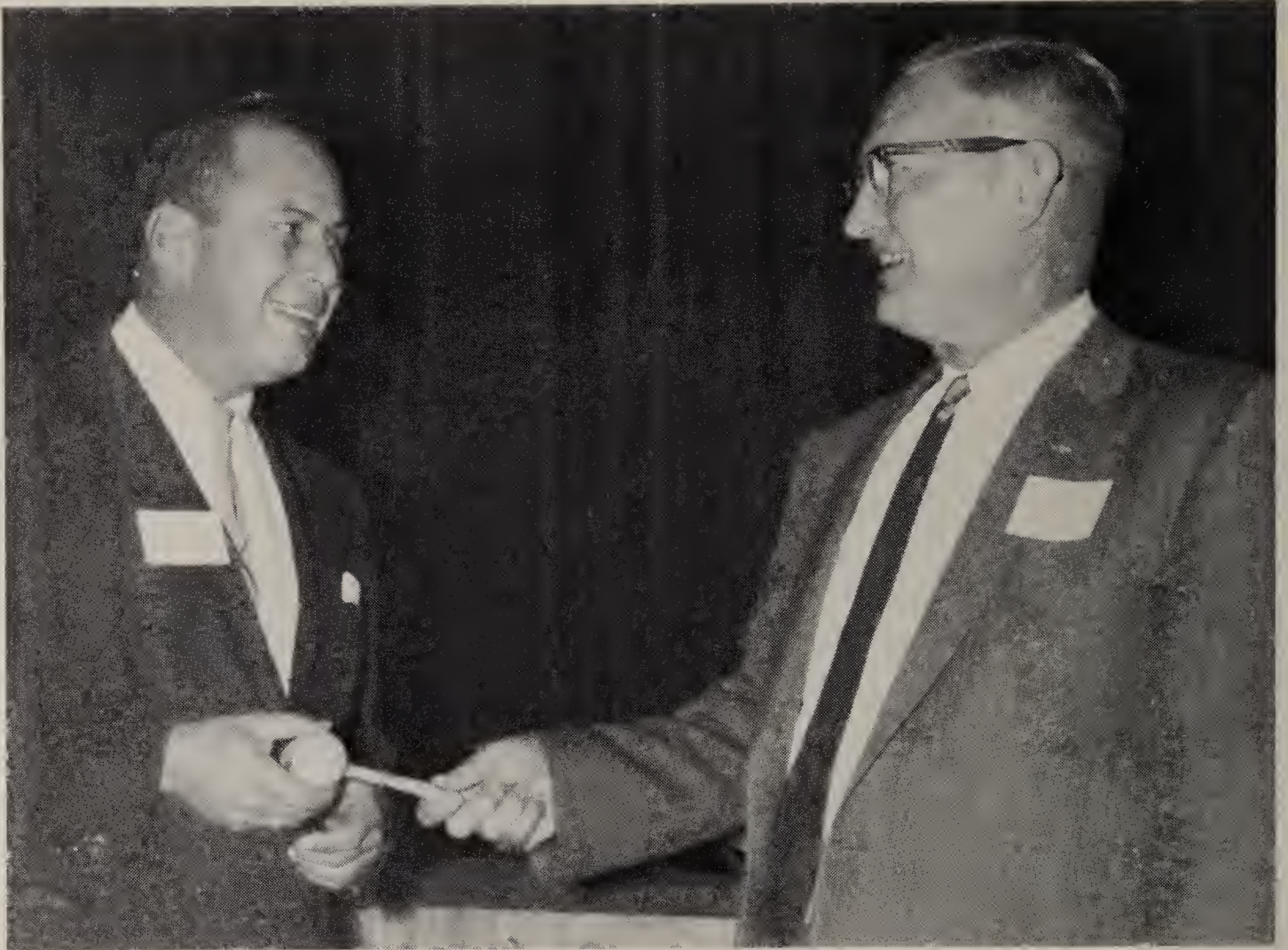


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Out-going president Kenneth G. Wilmore turns over historic gavel to his uncle and new president of the Association, Scott Wilmore.

HISTORIC ASSOCIATION GAVEL CHANGES HANDS

At our annual meeting, held February 2, 1959 in the American Legion Post No. 1, our past president, Kenneth Wilmore, turned over our historic gavel to newly elected president, Scott Wilmore. This gavel, presented to the Association some years ago, is made from the wood of a hackberry tree that once stood on a hill above Arvada. The spot still bears the name Hackberry Hill even though the proud, gnarled, old tree that had withstood several highway widening attempts was blown down some years ago.

Other elected officers announced by the nominating committee were as follows: Vice Presidents—Mrs. Alexander Barbour, Mrs. Rulison Knox, and Clyde Learned; Secretary—Mrs. Stanley Johnson; Treasurer—Clark Blickensderfer; Executive Board—Herb Gundell and Fred R. Johnson and the above mentioned officers. Also re-elected to the Board of Trustees were: Mrs. Charles Enos, Mrs. Henry McLister, Mrs. James J. Waring, Mrs. Claude Maer, Mrs. E. R. Kalmbach, Mrs. Farrington Carpenter, Dr. Moras Shubert, Henry Toll, M. Walter Pesman.

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PRESIDENT'S REPORT

THE year 1958 could be described in the overall picture in several ways. It could be described as the year of accomplishment or the "look ahead" year. But regardless of how I describe it, it was a year of success and progress.

During my second year as your president, I was fortunate once again to have the utmost cooperation of the Board of Trustees, officers and members of the Association. Throughout the year there was an air of excitement and anticipation that spurred the committees and individuals to an even greater level of accomplishment than ever before in my recollection.

The year started with a most successful annual meeting and banquet at the Continental Denver Hotel in Denver. At this meeting four new members were elected to the board. These were Mrs. Hudson Moore, Mrs. Rulison Knox, Mrs. John Nickels and Mr. Clark Blickensderfer. These new members took hold immediately and have finished their first year as seasoned veterans.

Our next project was the annual Garden Fair which was sponsored jointly by our Association and the Denver Botanic Gardens.

This fair was held at the Denver University Field House, and under the superb direction of Mrs. Ed. Honnen netted a total of \$5,273. This money was divided equally between the two organizations.

This fair was so successful that plans are now being formulated for one much more extensive in size and scope for 1960.

In this report it would be impossible for me to name every person who participated in our many and various activities; therefore, I am forced to

name only the committee chairmen and some key individuals.

Our publication, The Green Thumb, has improved in its overall quality because of a true working relationship between our editor, Pat Gallavan, and the editorial committee under the chairmanship of Walter Pesman. This committee was active throughout the year in editing and screening the articles published in The Green Thumb, and the overall quality of this magazine reflects the efficiency of this committee.

Mr. Lemoine Bechtold, due to serious illness, was forced to resign as treasurer of the Association after years of faithful service. Mr. Clark Blickensderfer was appointed to replace Mr. Bechtold and is doing a sterling job.

The Finance Committee, headed by Armin Barteldes has done a faithful job in coordinating our finances.

The Denver Street and Shade Tree Committee was very active during 1958. Fred Johnson, as chairman of this committee, worked diligently with the City and much action was taken concerning street widening programs and their effects on Denver's shade trees.

The Look and Learn Garden Tours, once again under the competent leadership of Mrs. Charlotte Barbour and Mrs. Hugh Catherwood, were very successful. Nearly \$700 was cleared on the program this year. There were four tours in different parts of the greater Denver area.

One of our most important committees this year was the Coordinating Committee, the purpose of which was to work out a satisfactory program and policy agreement with the Denver Botanic Gardens' House. This committee is composed of those members

on both the Board of Trustees of The Colorado Forestry and Horticulture Association and The Denver Botanic Gardens. They are: Mrs. James J. Waring, Mrs. Charlotte Barbour, Mrs. George Garrey, M. Walter Pesman, Fred R. Johnson, Dr. Moras Shubert and your President as an ex-officio member. This board has been very active and will obviously be one of our most active bodies after our move into our new quarters.

Membership this year is just about equal to that of last year under the chairmanship of Clyde Learned, who has personally procured over 200 members. Membership will be increased this year under a program of special introductory rates for garden club members and commercial people. Our slogan "Operation 5000" now must be a necessity and a concentrated effort will have to be given to membership in the future.

Pat and his very efficient assistant, Melanie Brown, did a superb job in handling the activities at Horticulture House. There were more than 5000 informational telephone calls and 150 talks by Pat to groups interested in gardening. Pat also did a 20 week television show on KRMA Channel 6, and a weekly Green Thumb radio show on KLZ.

Mr. and Mrs. Edward Vincent who are combination custodians and Secretary-Treasurer, deserve commendation for their fine work.

The Helen Fowler library now numbers more than 4000 volumes including over 50 new books added this year. This horticultural library which is the most complete in this part of the country will be moved into the library of the new Botanic Gardens' House.

At this time a final and heartfelt thanks of the Association and myself go out to Mr. and Mrs. John Evans for the use of Horticulture House for the past 12 years. It has been a wonderful gesture and their generosity will never be forgotten by the Association.

I would like to take this opportunity to thank all of the people who worked with me during the past two years. What measure of success we have enjoyed during this time is a direct indication of their cooperation.

We are starting an entirely new era and concept of horticultural advancement at this time. The groundwork we have laid in the past years has now become apparent. It is now up to those of us who have worked toward that end to re-dedicate ourselves toward the accomplishment of this end.

"SOMETHING OLD SOMETHING NEW"

Centennial!! So the cry goes out across the land from Colorado and our Association is Johnny-on-the-spot to help it along.

This year our usual four Look and Learn Garden Tours will be condensed into one very special one on Wednesday, July 8. The details of it will be published in succeeding issues, but suffice it to say it will be a good one under the able chairmanship of Mrs. Alexander Barbour and Mrs. Hugh Catherwood who have personally chosen the gardens in keeping with the centennial spirit. So put a special "Reserved for Garden Tour" mark on your calendar *today* for JULY 8! Details later.



LIVING WITH ROSES

By CLYDE E. LEARNED

NOT many years ago it was fashionable to locate a rose garden away from the house behind some large shrubs or trees because of the old idea that rose bushes are not very attractive part of the year. Recently, however, probably because of the creation of beautiful new hybrid tea, floribunda, and grandiflora roses, there has been a decided trend to use more roses in front and along side a house where they effectively carry out a good landscape plan.

My observations are that all colors of roses—red, pink, yellow, and white—can usually be used to advantage with many evergreens. A one color planting of floribundas or grandifloras in front of a house is often spectacularly beautiful, providing the color of the roses harmonizes with the color of the house.



Chrysler Imperial.

Photos courtesy American Assn. of Nurserymen

Most men seem to prefer red roses, and as a result, they appear in many layouts with junipers. The deep red hybrid teas *Crimson Glory* or *Chrysler Imperial*, or the floribundas *Red Pinocchio* or *Frensham*, are possible choices, although there are many others equally beautiful.

Roses are probably the most popular of all garden plants because they lend themselves so well to either formal or informal gardens. In planning and laying out a rose garden, first consider the available space and the number of bushes to be planted, then, whether you are going to have a formal or informal garden.

Most formal gardens are more or less symmetrical and usually center around a statue, pool, bird bath, sundial, or some other decorative object. Many include circular or oval beds in combination with rectangular ones. These layouts are often quite elaborate. Ordinarily found in parks, public gardens, or large estates these patterns are sometimes rather difficult to adapt to a small private yard so as a result small gardens usually tend more toward informality.

Because of size, shape, and topography in a small to medium sized yard, there can be no set design or pattern in planning and constructing an informal rose garden. Here, then, are many opportunities for a homeowner to exercise initiative and vision. Square or rectangular beds are usually found in areas bounded by straight lines, such as building, fences, patios, walks, and driveways. If the bed is on a slope, it must conform to the contours of the ground in order to be properly irrigated and provide satisfactory drainage. Rose beds built on ground sloping to the east and south are usually

blessed with better sunlight conditions.

Conditions vary with every home plot, so there actually is no limit to the designs that can be satisfactorily worked out. If possible, locate your rose beds so that you can enjoy them from patio or porch or from a window or two in the house.

Many people consider a rose garden as the focal point of their outdoor living room to be enjoyed by family and guests.

Maintenance is always a problem. Hence it helps to have more or less rectangular beds planted two to three rows wide with bushes staggered and spaced from 18 to 24 inches apart. Should you have two or more beds side by side in a lawn, leave at least 30 inches between the beds to facilitate grass cutting. Many people use metal edging strips to keep borders neat and to prevent grass from creeping into the bed. In setting the metal strips, place them low enough to permit the mower to run over them.

For a front yard planting, the lower growing floribundas with their prolific number of blooms and riot of color are good in hedges or borders on both sides of a walk leading to the front door, or along a driveway to the garage.

If you should locate your rose beds along a fence or wall, or adjacent to a building, plant tall growing bushes in the rear. If the bed is round, oval, or rectangular, tall growing varieties should be planted in the center of the bed with lower growing bushes around the edge. In this way blooms are shown off to better advantage and each plant will receive its share of sunlight.

If possible, locate beds where they will be protected from prevailing winds, for heavy winds are disturbing to roses and full blown roses shatter rather easily. A row of trees or



Helen Traubel.

shrubs, or a nearby fence or wall may offer suitable shelter. To facilitate spraying and other maintenance problems, plant roses in groups or beds, located away from the roots of most trees and other competing plants which would draw on their food and moisture. Most trees, because of their spreading roots, cause difficulties—willows, maples, and elms are particularly bad. Ornamental trees—i.e., flowering crabs, hawthorns, mountain ash, purple-leaf plums and such—are less troublesome. The roots of most evergreens, especially pfitzers and upright junipers, do not spread very far and roses may be safely planted close to them. As previously mentioned, these small evergreens make an ideal background for roses.

Another help in combating root competition is foliar feeding—that is, spraying the foliage of a plant with liquid plant food.

If roses must be planted under or near trees and large shrubs, a barrier

of sheet metal sunk vertically in the ground at the edge of the rose bed often cures or helps the situation. Some people have good results by using a sharp spade several times a year along the edge of rose beds and in this way cut off any encroaching roots.

When rose bushes are planted close to a fish pool be extremely careful in spraying for most rose sprays are deadly to fish.

A rose garden should get at least six hours of sunshine, preferably morning sun, and have reasonably good drainage. The success of a good rose garden depends upon proper preparation of the soil, prior to planting. Often this is neglected and in later years a great deal of time must be spent to correct it. The ideal soil structure for a rose bed is a good loamy top soil with an underlying clay sub-soil and under that a layer of sand or gravel. Roses actually thrive in

clay soil, but it often takes a year or two for them to get established. If there is any doubt about the quality of the soil, dig a hole about 18 inches in diameter and about 18 inches deep for each bush, and throw away the excavated soil. Then back-fill the hole with potting soil containing two or three handfuls of superphosphate or bone meal. Potting soil, usually a mixture of mountain and prairie soil and mountain peat and cow manure, may be found at most local nurseries. A layer of one to two inches of cow manure spread and spaded into the entire bed prior to planting time also helps.

Another great mistake made in taking care of roses is in irrigation. Roses are classed as deep rooted plants and require an occasional heavy soaking. My observations are that most sprinkling systems do not furnish an adequate supply of water to rose roots. A canvas soaker usually does a fine job. There is no set rule for watering roses because soil conditions vary. Light sandy soils absorb lots of water but will not hold it long. In summer, roses in these sandy soils may need water every three or four days, whereas sandy clay soils may go up to a week. Heavy clay soils hold water well and can go for periods of two to three weeks between soakings. Usually the best guide is to dig a small hole to check for moisture content of the soil.

Roses will not grow satisfactorily in a location where the roots are continually wet, that is why good drainage is essential. Rather than keep the ground continually moist, let it dry out between soakings.

Prior to installing a rose bed, test the soil by digging a hole about a foot deep and fill it with water. If the water drains away in one to two hours the location is probably satisfactory.



Mojave

If it doesn't, then move to another location or provide underground drainage; but the latter is rather expensive and involves considerable work.

Climbing roses are appropriate in any landscape plan where they are trained on a fence, building, arbor, gateway, or separate trellis. Climbers provide an ideal solution to the problem of screening out unsightly objects in the adjacent areas, reducing traffic noises, and furnishing privacy to a back porch or patio. Hardy climbers for Colorado include the red Paul's Scarlet or Blaze, the pink New Dawn, the white White Dawn, and if the location is protected, the yellow Doubleloons or the recent All America Golden Showers which is a low climber or a pillar rose.

The largest and toughest are the old fashioned shrub roses. These are effective in hedges to provide a fence, or screen, or a garden background. The most popular of these in Colorado are Harrison's Yellow, Austrian Copper, Grootendorst, Rugosa or Hugonis. Although they are hardy, they are usually limited to one burst of bloom each season.

LOCAL INFORMATION FOR DENVER ROSE GROWERS

The following cultural information was collected from several gardens, including the Denver Botanical Garden in City Park and covers the past four years.

Hybrid teas and floribunda roses normally have three separate blooming periods. Many reach their peak at different periods and as a result there are roses in bloom nearly all the time during the summer. Generally, the

first peak of bloom is about the middle of June, the second the first week in August, and the third peak the latter part of September. This indicates an interval between blooming periods ranging from seven to eight weeks. Naturally the time intervals will vary somewhat from year to year depending upon weather conditions.

During the past ten years I have found the date of the first hybrid tea bloom ranges between May 25 to June 12—the average being June 2. For the same ten year period I have lost rose bloom from heavy frost or a snow storm sometime between October 13 and November 2 with an average date of October 24.

In other words, Denver has about five months of rose bloom. Many of my friends in Lakewood and vicinity say they often get frosts earlier than we do in Denver proper, and as a result their growing period is somewhat shorter.

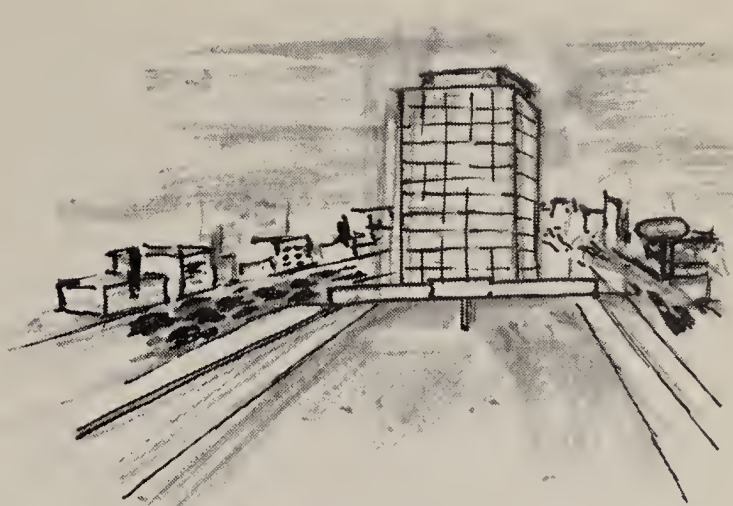
For exhibitors: In getting roses ready to exhibit at our local Denver rose show it normally takes three to four weeks between the time the first bud begins to develop to the time the rose is one half to three quarters open and ready for show.

Naturally roses have played a dominant role in this article, but in creating a beautiful and well balanced garden, don't overlook other plant material!

If a relatively large formal garden, or possibly an elaborate informal garden is contemplated and you are not sure just what you want, consult a capable landscape architect who is sympathetic to roses for a plan or at least some suggestions.

Riddle: Why are a caterpillar and a pancake alike?

Answer: Because they both make the butter fly!



WHAT VALUE AIR RIGHTS?

The proposed bid for lease of air rights over Cherry Creek for the purpose of constructing buildings has undoubtedly been brought to your attention.

As Denver celebrates its Centennial Year, we rejoice that men of vision (down through the years) have provided, for our enjoyment, a city renowned for its beautiful parks and parkways. Are we now to sell our heritage "down the river"?

We appeal to you, our present men of vision, to help retain these open space values.

As professional Landscape Architects, trained in the planning of land for human use and enjoyment, we are gravely concerned over the possible effects of the Cherry Creek Development Program for the following reasons:

1. *Vistas* from our many attractive and useful bridges spanning the creek give opportunity for glimpses of our fast disappearing mountain views.
2. *Traffic loads*, resulting from these high buildings, will further congest our newly widened Speer Boulevard. This will lead to necessary widening of this facility, resulting in the loss of most of the landscaped areas that make Speer Boulevard a pleasant experience.
3. *Lack of consideration* for the courageous and carefully prepared plans for Denver's Downtown area, where there is a crying need for the type of office buildings included in the Cherry Creek Plan.
4. *Emphasis* put on the out-moded use of the channel for flood water for which it was originally designed. A much more important need has been recognized and plans have been made for a limited access highway to be built on the existing channel bottom—without destroying the space above or the beauty of the existing plantings along the boulevards.
5. *Underestimating the value* of priceless space, an asset which perpetuates the kind of Denver that brought many of us here and continues to attract 30,000 new residents and 3,000,000 visitors annually.

We hope that you will consider the above when this proposal comes to you.

Very truly yours,

ROCKY MOUNTAIN ASSOCIATION OF LANDSCAPE ARCHITECTS

Julia Jane Silverstein, President

So You Think The Price You Pay For A Rose Bush Is Too High?

BARGAIN! Three rose bushes for only \$1.49! (A single No. 1 rose bush from a reputable nursery usually sells for around \$1.50-\$3.50.) How often do you see or hear this in spring? And how often are you tempted or how often have you actually purchased some *bargain* roses only to be disappointed by spindly growth and small sick blooms? All too often during the planting and growing season these *bargains* are foisted off on a naive economy-minded public. Occasionally, some may eventually develop into fairly sturdy plants, but most of the time a homeowner rues the day he bought them, or if he is completely inexperienced thinks all roses are scrawny and unattractive.

But, you say, what makes such a difference in rose bushes and why are some so expensive compared to others?

The following information is sent out to customers of Jackson Perkins, nationally-known rose growers, to explain the background and work that goes into the creation of a new hybrid rose and why No. 1 grade roses of top quality are never sold at bargain prices.

Every rose is bisexual. It has both male (stamen) and female (pistil) organs. To make a new rose, the pollen from the stamen of one plant is applied to the pistils of another plant. This is called a "crossing." Each crossing is tagged to identify the parents and is covered with a small cellophane bag to prevent insects or wind from violating the pollination.

If the pollination is successful the crossing ripens into a rose "hip" or "apple" which contains seeds.

The seeds are planted in flats where they germinate and send up small shoots.

After two or three true leaves are formed the seedlings are transplanted to small pots.

About the middle of April and at intervals thereafter, as soon as the first flower of each seedling has dropped its petals, groups of seedlings are set out in the field, pot and all.

By the end of the first autumn a few selections can be made and budded. However, most are not made until the second year in the field.

During the second and third years plants are observed, judged, and the outstanding ones marked for budding.

Selected seedlings are then propagated in larger numbers and are sent to trial gardens throughout the country for further testing.

If continued observation indicates a variety is worthy of introduction, it is propagated in commercial quantities as soon as possible. This takes an additional one to three years with a total elapsed time from start to finish of 7 years.

This time schedule, of course, presupposes ideal conditions. Diamond Jubilee, a prize winning rose, was hybridized in 1937 but was not ready for introduction until 1947. Usual average cost to a commercial firm producing a new rose is \$50,000.

NEXT STEP — QUANTITY PRODUCTION

Despite inventions which have made modern farming an increasingly mechanical operation, a rose plant is still a "hand made" product.

Specially adapted machines have made possible the cultivation and care of young roses. Without them no one company could grow rose plants by the millions. Just as a hybridizer must

make each pollination by hand, so must field workers laboriously change wild plants into prize winning hybrid varieties.

But let's start at the beginning.

When exhaustive trials have proved a newly developed rose worthy of public introduction, the test plants then become the original source of all future bushes of that particular variety. Branch stems are cut off as soon as they are "ripe." Then the leaves and thorns are removed by women known as "scion cleaners." The stems are stored under controlled temperature and moisture conditions until spring budding begins.

Meanwhile, cuttings of wild plants (usually multiflora) have been planted by hand in the fields. A machine first lays long strips of special paper—to keep weeds down and preserve moisture—and at the same time it punches holes at regular intervals. Cuttings

that have been pushed through the holes to a carefully prescribed depth take root and are allowed to grow for a year.

At this point, the fields have seemingly endless rows of vigorously growing wild roses. During spring and early summer teams of budders go down the rows carrying the prepared stems of selected seedlings.

Just above ground level the budder makes a vertical cut in the bark with a special budding knife; a short horizontal cut at the top forms a "T." He then folds back the two edges of the bark and inserts a bud or "eye" as the nurserymen call it. These buds can be seen on any rose stem at the point where a leaf branches out. But they must be precisely removed so that their growing surface is in close contact with the growing surface of the wild plant. It takes at least three years for anyone to become proficient in



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this delicate operation. And yet, an expert can make as many as 3,000 buddings a day!

The second man in the team, an apprentice budder, completes the operation by wrapping a special strip of rubber around the bark so that only the "eye" is exposed and is free to grow outward.

By fall the bud has grown a short stem. Then the top of the wild plant is cut off so all the food and water from the wild roots can flow into the new stem.

The healing process that has taken place at the point of budding is responsible for the knob (known as the "graft union") which a home gardener will find at the base of his purchased plant.

During the following season the newly-made plant is fed, watered, weeded, dusted, cultivated, and babied until it matures into a healthy full stemmed plant. If it lacks at least three stems at digging time it cannot be graded as a No. 1 plant and must be sold as an inferior grade. These, then, become *bargain* roses.*

Digging occurs in late fall after the plants have become dormant. While some are mailed immediately to customers who prefer fall planting, the balance are stored at 34 degree temperature until time to ship for spring planting.

This long and laborious process is why it is impossible to get 2-year-old field grown No. 1 rose plants of top quality at bargain prices.

*If you want superior plants, never buy "bench" roses which are often sold as spring bargains albeit they are never labeled as such. These roses are discarded from greenhouses after they have been used for cutting purposes during winter for the florist trade. Their vitality has been exhausted through winter bloom which precludes a summer showing for several years to come. —Ed.

SEED PROPAGATION

By BILL LUCKING

This is the Second Article in a Series on Plant Propagation as told to
The Green Thumb Staff

A successful propagator can learn a great deal from Nature's carriers—the wind, water, birds and animals. Find a plant in an unusual spot and it could have been dropped there by any of the above means. But in order to sprout, it had to be covered with just the right amount of soil that had just the right amount of moisture in it, and finally, the temperature had to be just right. Naturally, many seeds are lost. To assure the perpetuation of the species, each plant usually produces great quantities of seeds, some of which are bound to find favorable growth conditions.

Professional propagators have an edge on Nature. They can control soil conditions, moisture, and temperature to get maximum germination of a given amount of seed. But for amateurs and in Nature it's still mostly a hit or miss proposition. The following information from a recognized expert in the field should help professional propagators as well as amateurs in growing plants from seed.

MORE propagation is done by seed than by any other method but not all seeds germinate easily so for this reason we will divide them into two distinct types — soft shells and hard shells. Nearly all soft shells, which are mostly vegetable and annual flower seeds, are easily grown and so need little said about them. They can be planted either directly in an outdoor bed or in a flat, and in a few days will germinate and come up provided conditions are more or less favorable. For early maturation of vegetables and flowers, however, seed *must* be started in a flat or cold frame. Hard shell seeds usually require special treatment which will be described later.

PREPARATION OF CONTAINERS AND SOIL

A seed flat can be almost any size, depending on how much seed there is to be sown. But a good size is 14 inches wide, 18 inches long, and about 2½ inches deep. Soil should be a good loam, preferably light. If it is

heavy, mix in sand and peat moss until the right consistency. Then screen the soil to eliminate all clods and foreign matter. Fill the flat with this screened material; level and smooth it with a lath or small thin board, tamping it down lightly. Next take the lath, which is the width of the flat, and with the edge of it make a series of shallow V-shaped trenches. If the seeds are as small as petunia seeds, a light indentation will do, but if the seeds are as large as those of zinnias, the marks will have to be deeper. Several varieties may be planted in a single flat if only a few plants are needed. Be careful not to sow the rows too thickly and be sure the seed is clean and fertile. Seed bought from reputable dealers usually has been tested for cleanliness and fertility. Cover small varieties *very* lightly; larger ones more deeply.

Preparation of a cold frame is much the same as for a flat. A cold frame, of course, is outdoors, has higher sides, and has a lath or glass top which can be opened or closed. Proper leveling



1



2



5



6

1) Flat is prepared for soil with newsp

2) Finely screened soil is scooped into

3) Earth is then carefully leveled.

4) Next step—tamping down of the so

5) Shallow trenches are made with th

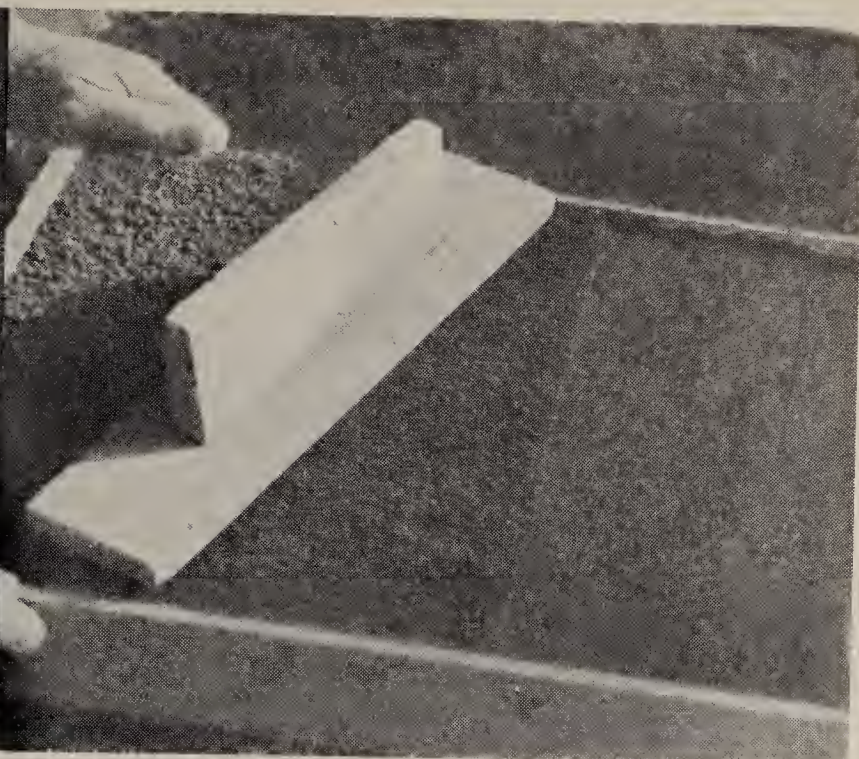
6) Close up of seeds sown in the tren
of trench.

7) Seeds are shallowly covered with
is then thoroughly watered with ge

8) Rows of seedlings evenly germinat
individual pots.



3



4

bottom.



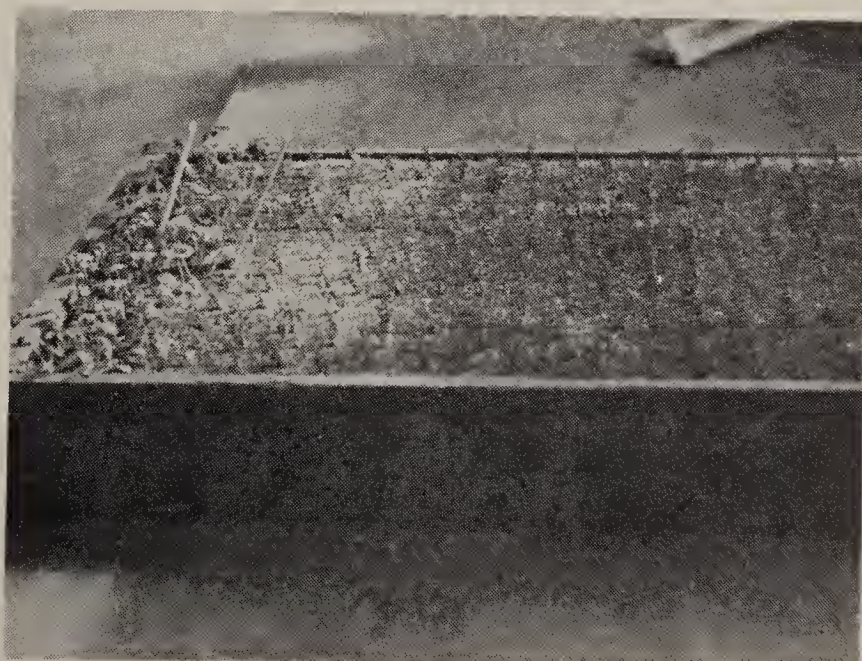
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board the width of the flat.

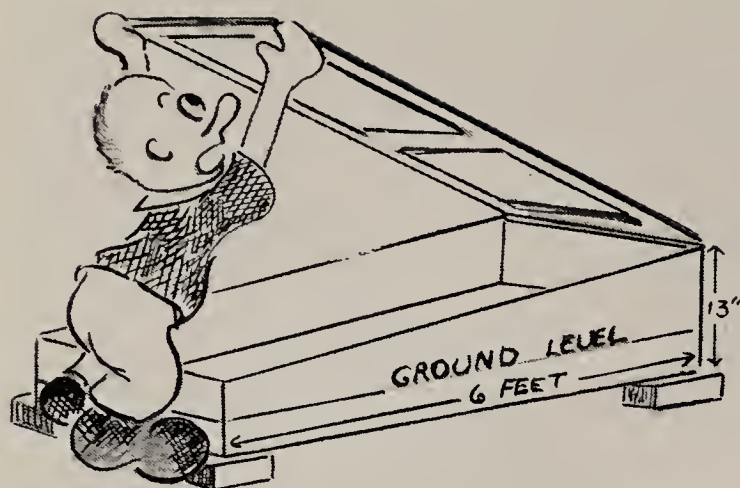
size of seed in relationship to depth

ing board lightly across surface. Flat

be thinned out and eventually put in



8



Cold Frame

of the soil in both containers is important because it assures even watering. Until the seed actually comes up, keep the soil uniformly moist and the temperature about 65 to 70 degrees for indoor flats.

Once the seedlings are up, let the soil dry out slightly between waterings. For if the soil is too wet, seedlings may "damp off" (rot at the soil level), and if they are kept too dry, will burn.

PREPARATION OF PERMANENT BEDS

As you may have gathered by now, good soil preparation is always essential, but in starting seeds outdoors in their permanent location it is especially important. Spade up the ground, incorporating whatever organic matter is needed, and rake out all clods. Then sow seeds in labeled rows. Again, take care not to cover them too deeply—particularly tiny seeds. A piece of burlap covering will keep them from washing or blowing away and will keep the soil from drying out. Look underneath it from time to time and as soon as there are sprouts take off the burlap. Water with a fine, gentle spray. Seedlings will require special care when weather is hot and dry for humidity is an important factor.

DIFFICULT SEEDS

Hard shell seeds are always more difficult to germinate because their

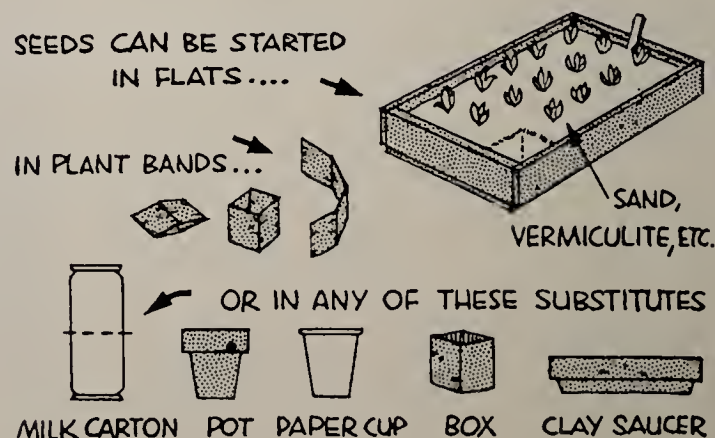
hard outer coating must be softened or cracked to allow moisture and warmth to reach the seed kernel inside to start growth.

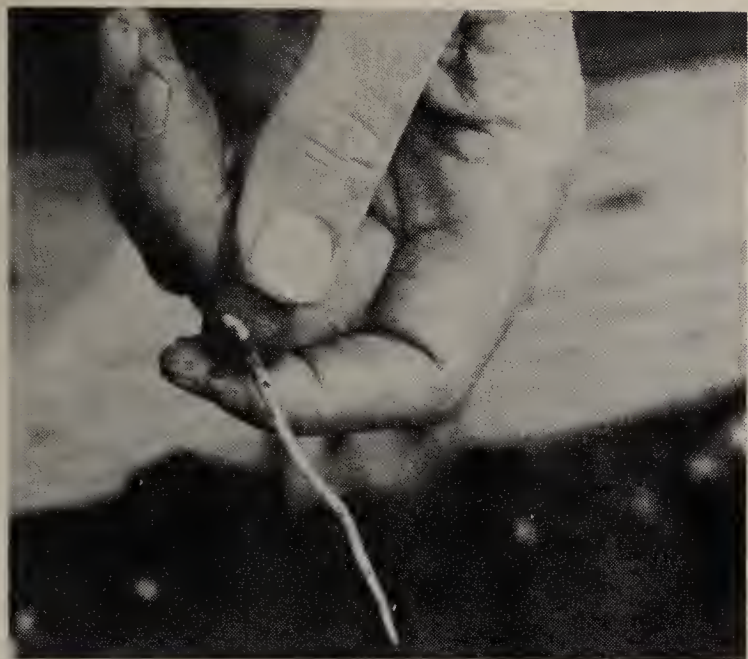
This cracking or softening process is usually brought on by stratification which simply means that in fall seed is planted 3 inches apart and $\frac{1}{2}$ inch deep in a cold frame filled with sand and peat moss. It is then watered, and heavily mulched to keep it from drying out. Alternate freezing and thawing through winter breaks or softens the shells enough to allow germination of the kernel inside. Sometimes this takes as long as two years so put your cold frame where it can remain undisturbed. In spring, remove the mulch and maintain as you would a flower bed. Your efforts will pay off the second spring when sprouts appear. Each fall mulch must be applied and in spring taken off.

SEEDS REQUIRING TWO YEARS TO GERMINATE

Seeds which take two years of stratification are: hawthorn, scopulorum juniper, cotoneaster, viburnum, euonymus, hackberry, and linden.

Honey locust seed has an extremely tough outer shell that it is almost impossible to crush even with a hammer. But scalding water is the "open sesame" to the problem. Pour it on and leave the seeds in it over night. This swells the seeds to such an extent that when planted they will come up in three days! Seed from the Kentucky





Stratified, fall-planted acorns showing amount of root development by following spring.

Coffee tree should be handled the same way.

FALL PLANTINGS

Acorns, chestnuts, maple, and elm seed must be planted as soon as they are ripe (when they are ready to drop) for they lose their fertility rapidly—sometimes within days. Plant them in a cold frame in rows four inches apart and cover them with two inches of soil. If there are squirrels about, be sure to cover the frame with wire to keep them from digging up the acorns or chestnuts. Acorns and chestnuts will not come up until the following spring, but maple and elm seeds which are ripe and collected in July, will come up immediately.

Perennial flower and shrub seeds are given a head start by a fall plant-

ing. As in the above cases, sow them in a cold frame, water them well, and put on some mulch. In spring, around March, rake off the mulch. Young seedlings will have popped up. To protect them as they must be protected while still tender, a lath frame work is placed over them. Thin boards 4-6 inches wide spaced 2 inches apart make an ideal frame. This will usually keep summer temperatures beneath it at about 60 to 70 degrees. Sash (coated glass panes) may be used too but usually this is better for annual seedlings.

The following perennial flowers and shrubs will come up the spring following a fall planting but should be left to grow in the cold frame for additional protection and care until the next fall.

Perennials: *Anchusa* (bugloss), *Centaurea*, *Baptisia* (wild indigo), columbine, delphinium, *Lathyrus* (peavine), lupines, *Platycodon* (balloon-flower), *Primula* (primrose), and *Trollius* (globeflower).

Shrubs: ginnala maple, plum, dogwood, caragana, barberry, mahonia, and evergreens (pine and spruce).

Before planting any seed, especially from shrubs and trees, wash it in water. Any seed that is infertile will float to the top and can be skimmed off. Dry the good seed thoroughly and then proceed with whatever method is called for.

“As a garden has been the inclination of kings and the choice of philosophers, so it has been the common favorite of public and private men, a pleasure of the greatest, and the care of the meanest, and, indeed, an employment and possession for which none is too high or low.”

—Sir William Temple

USE SENSE AND SAVE DOLLARS

By JULIA ANDREWS

Rocky Mountain Association of Landscape Architects

"Buy! Buy! Buy! Wall to wall carpeting, new draperies, furniture. We still have the architect's and interior decorator's fee to pay and now you're thinking about patios, plants, and a landscaping plan! I'm not made of money, you know. All we need for the time being is to sprinkle a little grass seed around to get rid of the mud and put in one or two of those trees that stay green all winter. We don't need a landscape plan. Anyone can put in a few trees and flowers."

Does this sound familiar? How many new homeowners feel this way?

Color schemes, fabrics, and textures are all integral—and planned—parts of a new home. How inconsistent then, not to *plan* the exterior. The setting for a house indicates the taste and personality of a homeowner just as much as the interior does and when property is landscaped as an after thought in haphazard fashion it looks—just that.

Today, new homes are designed so that the living pattern flows easily from inside to outside and vice versa, increasing the necessity for planning the interior and exterior as a single harmonious unit. But how many families do this? Rather, it goes something like this:

A new homeowner looks out from his window on an expanse of mud and calls a concrete contractor to construct a walk to reach his car in the driveway. Next, a plea for help goes to a landscape contractor to put in a lawn. Later, watering becomes a chore so he calls a firm selling sprinkler systems. Naturally, sections of the new lawn must be dug up to place the sprinklers and evidences of the con-



struction are usually left on the previously finished grade. A few evergreen shrubs bought one Saturday on impulse complete the "landscaping." A few years later, disappointed with the effect, Mr. Homeowner finally realizes a development plan is the only solution.

Such cart-before-the-horse reasoning is hard to understand if dollars and cents are important (and when aren't they important?) for it is expensive to re-lay a sprinkler system in the light of present-day labor costs. The walk, inadequate and inconvenient, must come up too, and often evergreens planted without consideration of their mature size need to be relocated—another unnecessary expense not to men-

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tion the hardship on the plants themselves.

How much more sensible to plan beforehand. Financially it may be impossible to complete the entire project at once, but as time and money permit, whatever *is* constructed will be part of a beautiful design that gradu-

ally emerges as each section is finished. As plants mature in their proper locations the scene grows lovelier with each succeeding year giving spiritual as well as physical comfort to the happy owners.

Editor—Moral: Think before you plant.



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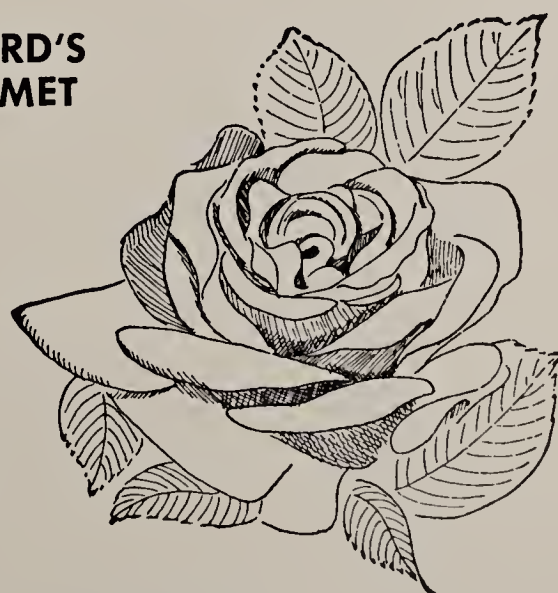
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Reminiscent of New Orleans courtyards, this midwest entrance vividly expresses the personality of the owner. The circular enclosure makes an attractive planted bed, which, if there were small children, could serve equally well as a built-in sandpile.

Photo courtesy Portland Cement Assn.

Improve The Personality of Your House

HOUSES can have personality just as people do, and in an age of standardization such as ours the trait of individuality is particularly welcome.

This was borne out in discussions at the recent Women's Housing Conference, a national gathering of housewives held each year in Washington. "I don't want my house to look like everyone else's" seems to be a general feeling among today's homemakers.

How can a house be made more distinctive and livable, better suited to the kind of life its owners prefer? Many practical and original suggestions for doing this came out of the informal discussions held at the Conference.

ADDING NEW DIMENSIONS TO SPACE

One of the basic needs is for space. Cramped quarters make it difficult for

a family to live comfortably and harmoniously. Lack of privacy and too much noise are sources of friction. For these reasons there has been a growing demand for larger houses with full-sized kitchens, separate dining rooms, entrance halls, and ample storage space.

Here are some suggestions offered on how to make more effective use of available space:

- (1) If building or remodeling, choose an arrangement of rooms that provides privacy. Closets and storage walls help reduce transfer of sound.
- (2) Consider the possibilities of sound-proofing materials such as exposed concrete masonry walls. In addition to fine acoustical properties, the new types of block add distinction and interesting texture to home interiors.

- (3) Let certain areas lead a double life: a husband's den or library by night can become a sewing room by day; a dining room for formal occasions can serve as family room the rest of the time.
- (4) Finish off basements, attics, and garages so that they are attractive and comfortable enough for frequent use. In addition to providing storage space, such areas lend themselves particularly to activities involving noise, clutter, and equipment.
- (5) Extend living space to the edges of the lot by planning permanent facilities for outdoor living.

AIDS TO OUTDOOR LIVING

The vogue for outdoor living is no longer regionalized, but seems to prevail in all parts of the country and with all age groups. After careful consideration of family activities and preferences, provision can be made for using outdoor space to greatest advantage. This is definitely one area where

personality and individuality can be added to a home.

One homeowner at the Conference reported that her family had planned their garage to double as a pavilion in summer. The inside walls are finished off and storage space enclosed. Full doors fore and aft are rolled up and replaced by screens in spring and summer to make a breezeway. This is a popular play area for the children. On occasions when large groups of friends are entertained outdoors, woven straw carpeting is used on the garage floor and the buffet table set up there. In case of rain, the extra space is indispensable.

A paved area is highly desirable to support lawn furniture and provide a clean dry place for children to play. If space is limited, a combination driveway and patio may prove the answer. This has been done successfully using precast concrete and strips of sod. There are many new effects being obtained with concrete, which can be integrally colored, stained, textured, or



Permanent provision for outdoor living is a good investment. Shielded from public view, the spot has shade in summer but gets the warm sun in early spring and fall, extending the season for outdoor comfort and enjoyment.

Photo courtesy Portland Cement Assn.

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given a pebbled effect. When done with taste, a paved area can enhance the appearance of a yard, make it easier to keep looking trim, and provide valuable outdoor living space.

A practical arrangement described by one young wife is built around a retractable clothesline. On wash day the line is pulled out from its position above the paved area and fastened to a vine-covered post. The paved area is especially convenient in spring when the ground is soft and damp. When not in use, the clothesline goes back out of sight, and the post again becomes part of the scenery.

Sand piles still hold charm for young children, and can keep them playing contentedly for hours in their own yard. Why not an attractive permanent enclosure? This can be a low circular wall, of a convenient height for adults or children to sit on. The central area should have some provision for drainage, and a layer of crushed rock and straw beneath the sand will help keep it dry. When no longer needed as a sand pile, such an enclosure can be used as a fire pit or planted with flowers and shrubs.

In planning for outdoor activities, special consideration should be given to privacy, and this may necessitate

a garden wall or trellis. Some very beautiful and imaginative walls are being designed at present. New materials such as split block, slump block, perforated block, and a growing variety of sizes and shapes in conventional block are appearing on the market, and are being used in new ways. By combining units of different sizes or by recessing or projecting certain units, it is possible to get very interesting patterns of light and shadow. Block with special facing, such as Shadowal and Hi-lite block are becoming more widely available. Open grille effects can be created by leaving space between blocks, by placing units on their sides so that the open cores are visible, or by using special perforated block. Such a wall lends individuality to a lot and helps promote more relaxed outdoor living.

SOMETHING OLD, SOMETHING NEW . . .

From caveman days to the present, one feature of the home that has had enduring popularity is the fireplace. Few other things seem so clearly to symbolize warmth and sociability. An attractive and well-built fireplace, while generally associated with the living room, might be located as well in the family room, master bedroom, or

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From early caveman to modern sophisticate, people have enjoyed gathering around an open fire. Rugged slump block painted black was used for this strikingly modern fireplace which dominates the living room. The wide ledge provides extra seating without clutter.

Photo courtesy Portland Cement Assn.

some other part of the house. Many styles and materials are available to express personal tastes, for example, split block with its rugged stone-like

texture, or slump block resembling adobe.

Many ingenious and practical improvements are constantly being made in house construction. Personal ideas should not be underestimated — they might start a trend. Some features that women at the Housing Conference said they would like in their home: a drip-dry drainage closet like a shower stall, near the laundry facilities; pass-through linen closets; a sewing bar near the dryer, so that missing buttons and other repairs can be made on the spot; sunken or unobtrusive incinerator and trash can; gas and electric meters that can be read from the outside of the house; electric outlets on the outside wall, especially near the patio; and a diagram of working details (heating, plumbing and other) that would come with the deed to the house.

Let your house express your personality. It will not only suit your family better, but will be more interesting and attractive to others.



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M. Walter Pesman (arrow) represented the Rocky Mountain region, the Colorado Forestry & Horticulture Association, and the Denver Botanic Gardens at the International Horticultural Congress in Nice, France.

Fifteenth International Horticultural Congress

Columbine Introduced to Thousands

MOST of us believe that the Rocky Mountain columbine is among the most beautiful flowers of the world. But how to convince others? A beginning was made last April in Nice, France.

Our well-known member and landscape architect, M. Walter Pesman, was asked to give a paper before the Fifteenth International Horticultural Congress in Nice, on "Little Known Ornamentals from the Land of the Rockies."

There were close to seven hundred delegates and participants gathered at Nice from forty different countries. France, of course, had the most delegates, 245. The United States had a representation of 30, Germany 63,

Holland 18, Great Britain 95; Italy, Spain, Denmark, Sweden, the U.S.S.R., Switzerland, Belgium and Canada ranged from 8 to 13. Other countries represented were Arabia, Sudan, South Africa, Australia, China, Czechoslovakia, Hungary, Ireland, Israel, Yugoslavia, Japan, Vietnam, Poland and Portugal—a representative mixture of horticulturists.

Here was too good an opportunity to miss: telling a great number of horticulturists about Rocky Mountain ornamentals in general and Rocky Mountain columbine in particular.

Armin Barteldes opened up his heart and his seed collections and donated one thousand packets of columbine seed to the cause. They were

distributed at the Congress in Nice and to various botanical gardens which Mr. Pesman visited on his way through Europe. So, if you find columbines growing in most unusual places the next time you visit Europe, you'll know how it all happened.

After the paper was read before the Congress, the editor of "Gardener's Chronicle," Roy Hay, invited Mr. Pesman and a few other speakers to go on the British Broadcasting Net (by tape). Thus even more people heard about our native ornamentals.

What else did he talk about? Here are some highlights.

Unfortunately many of our native plants cannot be acclimatized in humid regions. And, unfortunately again, the best garden regions of the world are in humid climates—in places where the soil is acid rather than alkaline.

And yet—

In the first place there are a number of alpine plants that were "stranded" so to say, on high mountain tops in Arctic regions after the glaciers receded. Thus we find the following plants not only in Colorado but in Lapland and Switzerland as well: *Dryas octopetala*, *Silene acaulis*, *Linnæa borealis*, *Viola biflora*, *Arctostaphylos uva ursi*. The latter is called Kinnikinnick here, but also carries the translation of the Latin name, bearberry, into other habitations.

Many of these typical alpine-Arctic plants cannot easily be transplanted to the average garden.

Again, many plants from the alkaline plains in our Rocky Mountain region are difficult, but a number of them have been introduced.

The best possibility for garden use is furnished by our plants from the sub-alpine zone where conditions are more or less similar to those of the

gardens of Europe and America. Among the plants of medium altitude the columbine has a chance for adoption in other climes.

So much for our contribution to the International Horticultural Congress last spring. What else is of interest to us in Colorado?

Here are some of the things that impressed Mr. Pesman:

1. What a good and easy introduction the love of growing plants proves in fostering friendship among people. National feelings seem less important than the interest in plants and their culture.

2. Blessings on botanical names that bridge the language gap between people. *Arctostaphylos* and *Koeleria* are understood by plant lovers the world over—even if we have to think twice when suddenly confronted with the pronunciation Ko-ell-ray-oo-tay-ree-a, with the accent on the "ree." But, to make it even, Europeans have as much difficulty recognizing our pronunciation of *Isoetes* or *Erysimum*. Even then, writing a name removes all doubt.

3. The Congress resembled, not a three-ring but a seven-ring circus, with the following subdivisions: a. Vegetable and seed culture; b. Fruit growing; c. Flower growing; d. Ornamental trees and shrubs; e. Subtropical plant growing; f. Plant pathology and plant pest control (including technique of plant culture); g. Greenhouses and plant protection.

Papers in these sections were given simultaneously.

At other times the entire conference was invited to general lectures on plant hormones, hybridization, flowering fundamentals, and to symposiums on plant breeding, micro-elements, viruses, soil-less culture, and new "won-

der drugs" on flowering and maturation.

Films were shown on rose growing, irrigation, root growth control.

The all-over effect of all this was a feeling that there is no excuse for ignorance in modern horticulture. Rather did the participant come away with a feeling of hopelessness in the multiplicity of scientific information. Every nation seems to make valuable contributions.

4. Entertainment was provided by a number of excursions to the wonderfully scenic environs of Nice; among them were visits to a perfume factory, a plant breeding establishment of carnation, grape, and violet culture, and finally an all-day trip into the rugged mountainous country of the maritime Alps with—believe it or not—good ski slopes.

5. Yes, horticultural science is international. Then, why not make it easier for everybody to work together? To that end this Congress in Nice laid the groundwork for an *International Society for Horticultural Science*.

NEW ORGANIZATION

In 1955 the previous (14th) International Horticultural Congress, held in Holland, had proposed such an International Horticultural Society. Even though many individual workers in different countries get to know each other as man to man, there is need for better contact. International congresses have helped; now the International Society will keep workers in touch with one another between Congresses.

Our latest information shows:

Name: I. S. H. S.—*International Society for Horticultural Science*.

Membership: a. Each country to select not over 3 persons in horticulture; b. Individual members; c. Honorary members; d. Affiliated organizations, concerned with promotion of horticulture.

Organization: The *Council* is its highest authority, executing the policies of the *General Assembly*, suggesting place and date for Horticultural Congress, and setting up *commissions* for special activities. It is a general directing body to which the Executive Committee, belonging to many nationalities, looks for guidance. *Commissions* are set up for fruits, vegetables, ornamental plants, tropical horticulture and horticultural nomenclature. They organize symposia on special subjects, and are responsible for the general outline of section programs. Their activities shall be announced in the Society's Bulletin.

Voting: "All voting shall normally be carried out by a show of hands unless otherwise decided by the meeting. In that case a ballot shall be taken and scrutineers be appointed."

All this may sound dull and uninteresting. In reality it is exciting to find that horticulturists all over the world now have a common meeting ground. Should the Colorado Forestry and Horticultural Association join this International Society?

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GARDEN BRIEFS

By MRS. EDMUND WALLACE,
Federated Garden Clubs

The Central District of the Colorado Federation of Garden Clubs, Inc., will conduct a workshop Tuesday, March 31, from 9:30 to 12:30 p.m. at the Industrial Federal Savings Bank, 200 University Blvd. The program is for the president or vice president and one other club representative, i.e., one or two delegates from each club. The purpose of this workshop is to teach the correct form in making out Horticulture, Conservation, and Therapy reports for state awards and to teach the correct construction of year books and scrap books for state award eligibility.

An Executive Board meeting of the State Federation of Garden Clubs Inc. will be held on March 18 at 1 p.m. at 1422 Kenton St. in Aurora.

Course II of the State Flower Show School is scheduled for May 5, 6, 7. Mrs. J. Arthur Nelson of Omaha, Nebraska, is to teach Floral Design and Color and Flower Show practice. Herbert Gundell, Denver Agricultural Agent, will conduct the studies on Horticulture.

Dedication of the National Council's headquarters will take place the first day of the Thirtieth Annual Convention of the National Council of State Garden Clubs to be held in St. Louis, Missouri May 10-14, 1959. Convention registration blanks and hotel reservation blanks are available from Mrs. John Nickels, 133 North Sherman, Littleton, Colorado or Mrs. Fred Mauntel, Corresponding Secretary, Washington, Missouri. A package plan includes registration fee, business sessions, transportation, tours, four banquets, and entertainment for \$55.00. More details of the speakers, tours, and entertainment will be printed here in April.

It is with continued admiration that we report the talk our State President gave at the Nurserymen's and Arborists' Short Course in Fort Collins, February 9. We hope her subject, concerning what a gardener expects from nurserymen, will further the understanding between nurserymen and home gardeners and will be one more link of understanding among horticulturally interrelated groups.

The Jefferson County Bank, 7590 West Colfax, Denver is the new meeting place of the Judges Council for flower show judges and students on Monday, March 9. The time: 10:00 a.m. Line Arrangements will be displayed and point scored.

Submitted by Mrs. Winifred Stump, Top-of-the-World Garden Club: The Top-o-the-World Garden Club of Gunnison, Colorado, elevation 7,683 ft., has started a survey of trees and shrubs that will grow in this altitude and live through our severe winters without protection in the hope we can save new home owners, and anyone else interested, much disappointment and money.

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Each garden club member has been asked to survey both her own yard and the yards of neighbors and to record the results of her survey on the catalog cards.

By planting time this spring, we hope to have the file indexed and in usable condition, but we will continue to add new cards as other varieties are tested. Upon completion of indexing, the file will be placed in either the Forest Service office or in the lobby of the Municipal Building where it may be used as a reference by all interested persons.



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Seasonal Suggestions

MARCH is a month of anticipation and preparation for Rocky Mountain gardeners. Its unique weather combinations perplex plants as well as gardeners. Crocuses encouraged by moderating temperatures often find themselves peeking out from under a blanket of snow. On a mild Saturday, it's not at all unusual to see a great deal of activity in neighborhood gardens stilled by chilling winds and snow flurries on Sunday. Weather-wise March is a topsy-turvy month but an important one to a good gardener.

PLANNING

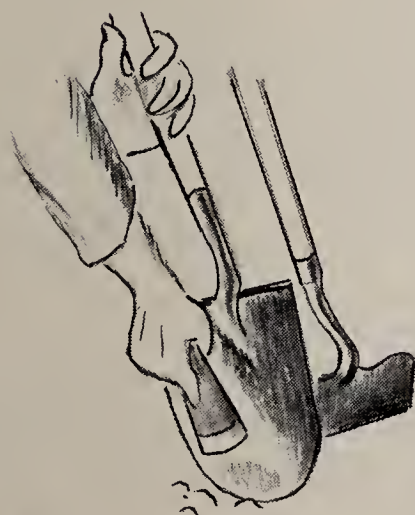
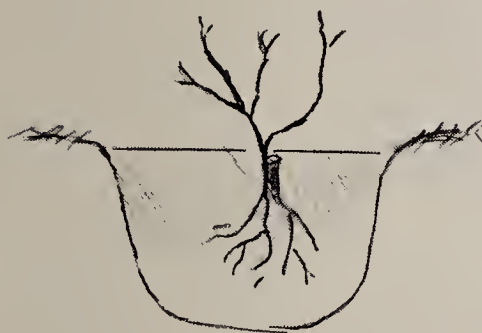
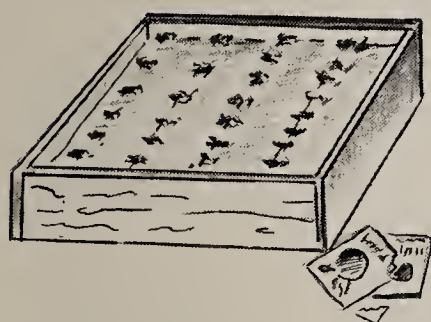
In this age of outdoor living, good landscape design is a must if this area is to be an effective buffer for the hustle and bustle of our contemporary space age. Practically all of the activities in a garden, from designing it to planting it and mowing the lawn, can be made easier if it is properly planned. Now is the time to do this planning—before planting—not afterwards. Take time to go through seed catalogues for new and interesting material for your garden. Plan on visiting and becoming acquainted with your local nursery or garden center. All reputable plantsmen are familiar with which plants grow in their locale and can help with many of your garden problems.

ANNUALS

If you want to get the jump on the weather, seed your annuals indoors, now. Growing your own bedding plants is fun. The major requirement is adequate space. It's fairly easy to germinate 50 tiny seeds in a four-inch pot but it's something else to find space for those same growing plants when they need, individually, four-inch pots. (For information on seed propagation see P. 69.)

ROSES

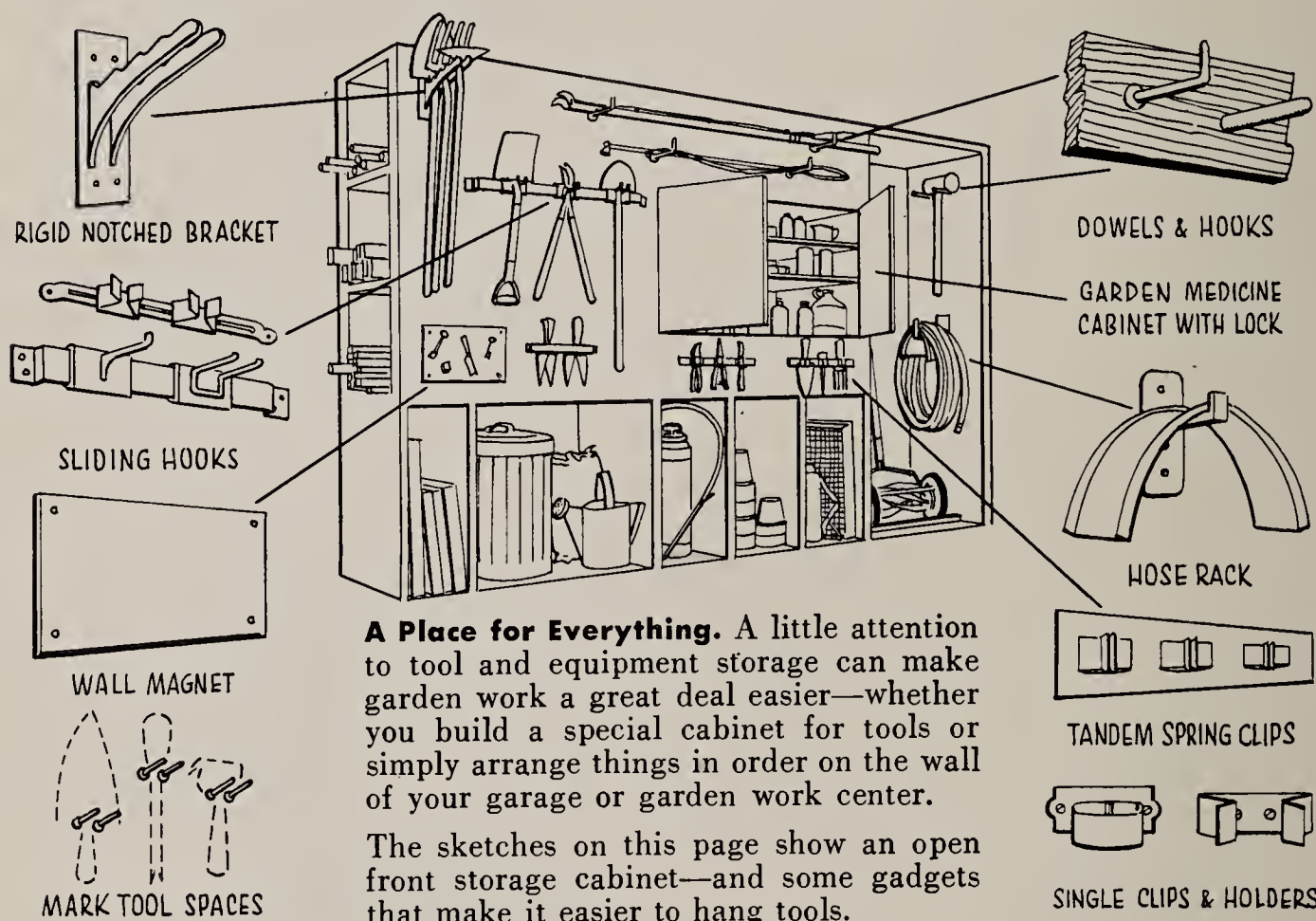
Don't be tempted to unhill or prune your roses this month. You can, however, plant new roses the latter part of March if the ground is workable. With roses and other bare-rooted stock be generous and thorough in preparing the soil.



Dig a hole larger than is needed and incorporate peat moss, at least 30% by volume, to the back fill.

TOOLS AND EQUIPMENT

Having the right tool handy and in good working order simplifies garden maintenance. Make an inventory of your tools, hoses, and spray equipment to make sure they're all in good working order. This is the time to sharpen dull tools, repair leaky hoses, and replace broken or obsolete tools. Better check your lawn mower, too. If it needs sharpening, send it out now before the grass needs mowing. Proper storage of tools is also important. Perhaps the accompanying sketch will give you some good ideas.



—Sketch Courtesy Ortho Garden Book

HOUSE PLANTS

House plants are easily forgotten as soon as outdoor gardening gets into swing. However, they still need attention. Water them regularly and once a month add a soluble fertilizer. Start new cuttings from geraniums, coleus, and begonias if you wish plants for outside by May.

TREE CARE

Now is the time to apply dormant sprays to control scale insects. If your trees need spraying, call your arborist soon for the number of days when the weather is right for spraying may be limited.

FLOWER BEDS

Flower beds and other cultivated areas can be prepared as soon as the ground is workable. Again, in many clay areas the incorporation of good quantities of peat moss or well rotted manure (30% by volume) is a must.

There are hundreds of places in the Denver Area where you may buy ornamental plants for your garden. Why is one more Garden Shop (OURS) needed? First, we believe that we can give our customers, from a lifetime of experience in this area, advice as to where and how to plant each ornamental plant. Second, we carry almost every plant that any one could expect to grow in this area, making it unnecessary to order from questionable sources in other states. Third, we are equipped to take care of these plants until you get them, so that they are all in good live condition and ready to grow (if you give them half a chance).

Before ordering, check these three points with any other source of plant materials.

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Treat yourself to a relaxing, refreshing wonderland weekend this winter! For complete information and reservations, visit Rio Grande's city ticket office, 1531 Stout Street in downtown Denver.

The Green Thumb

The Magazine for Rocky Mountain Gardeners



TACKLE YOUR
GARDEN
PROBLEMS
SYSTEMATICALLY

PAGE 80

LIVING SCREENS

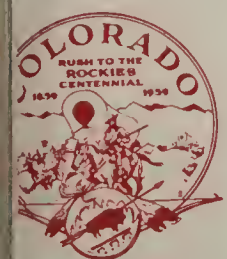
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HOW TO START
YOUR OWN
PLANTS FROM
SOFTWOOD
CUTTINGS

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DWARF FRUIT
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APRIL

1959

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APRIL

Vol. 16

No. 3

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The Green Thumb

Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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MEMO

Calendar of Events

"Fun with Flowers" — A lecture and demonstration is followed by the making of arrangements. Each person brings containers, mechanics, and material. The workshops are open to everyone. Due to popular demand the workshops will be held each month at the following times and places:

Workshop No. 1—1422 Kenton, Aurora, Second Thursday, 9:30 a.m.

Workshop No. 2 — Lakeside Denver Dry Goods, 44th & Harlan, Denver, First Friday of each month, 10:00 a.m.

Workshop No. 3—Arapahoe County Fair Grounds, W. Belleview and

Windemere, Littleton. Third Tuesday, 10:00 a.m.

A **Local Mushroom Society** is now being formed for field trips, study, cookery, etc. Anyone interested please call Hale F. Clark, RAce 2-0076, evenings.

Floral Art Course: Opportunity School. Every Thursday 9 a.m.-11:30 a.m., 1 p.m.-3:30 p.m., 6:30 p.m.-9:15 p.m. There is no charge except for materials.

The Green Thumb Program — Every Saturday morning on KLZ at 10:15 a.m.

BOTANIC GARDENS' HOUSE MEETINGS

Denver Rose Society meets second Thursday of each month, 8 p.m.

Botany Club meets 1st Wednesday of each month, 7:30 p.m. New Members Welcomed.

Organic Gardening Club of Denver meets second Wednesday of every month.

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SUNDAY, MAY 3 — 2:00 P.M. to 4:00 P.M.

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"SOMETHING OLD SOMETHING NEW"

Centennial!! So the cry goes out across the land from Colorado and our Association is Johnny-on-the-spot to help it along.

This year our usual four Look and Learn Garden Tours will be condensed into one very special one on Wednesday, July 8. The details of it will be published in succeeding issues, but suffice it to say it will be a good one under the able chairmanship of Mrs. Alexander Barbour and Mrs. Hugh Catherwood who have personally chosen the gardens in keeping with the centennial spirit. So put a special "Reserved for Garden Tour" mark on your calendar *today* for JULY 8! Details later.





"Spring is busting out all over" and so is Denver's young Botanic Gardens as it opens its new headquarters building and breaks ground for its new herbaceous unit at 909 York Street.

On Monday, March 23, a ground breaking ceremony, paving the way for a large herbaceous unit, was held in the large lot that used to be the old Calvary Cemetery. Botanic Gardens' President Lawrence Long said a sprinkler system and fencing will be installed soon and that the initial planting of annual flowers will be made in late May. April 1 was the official opening of the Botanic Gardens' House. This building will house not only Botanic Gardens' offices but those of the Colorado Forestry and Horticulture Assn. and the Colorado Federation of Garden Clubs as well. It will be available to other garden clubs and any interested horticultural groups for meetings. Just be sure to make reservations well in advance for any meetings.



Ground breaking ceremony for the Botanic Gardens' herbaceous unit.



Above: Botanic Gardens' House.

Below, left: View of living room. This will serve as meeting room for large groups.

Below, right: View of dining room which may be used for smaller groups or for special teas and luncheons.



Tackle Your Garden Problems Systematically

By M. WALTER PESMAN,
*Rocky Mountain Assoc.
of Landscape Architects*



MANY of us worry about our home grounds. We know that something ought to be done. We want to do it right. But it seems so complicated! We postpone action, not knowing how to begin. That postponement is dangerous.

Because . . .

Before long a nursery salesman rings the doorbell. All he needs to do to get your attention is to tell you just what you have been telling yourself—that the house needs landscaping.

If he is a good salesman he'll take the initiative which should have been yours. As a result you'll be buying a lot of nursery stock. If it is a large order he might even "throw in" a plan—*his* plan, not yours. Is that what you wanted?

If you escape the nursery salesman, you are almost sure to make a deal for a lawn, or for a sprinkling system. Again, the initiative is not yours, but theirs.

After you have paid your bills, you have "landscaped ground." It may not be too bad, but it won't be *yours*

in spirit, only yours in that you have paid the bills. Is that what you wanted?

Even if you do your own choosing of nursery stock, perennials, and roses, chances are that you buy too much or too little *unless you order according to plan, your plan.*

Maybe this article will help you begin. By going at it systematically, a plan is not too difficult once you make up your mind to do it. If you are not sure enough of yourself, get some professional advice, but in any case, do your own thinking for your own home grounds.

Some of the work is simply a matter of technique, easy, but highly important. Before ordering plant material there are at least five things to do.

1. You must *know* just how much room you have. Guessing won't do, but a simple job of measuring will. Then draw the home grounds to scale. In some cases the architect has a plot plan to give you. In other cases make your own. If your place is 50 by 125 feet and you decide to let every foot of ground be represented by a

quarter inch on paper, you need a piece of paper 12½ inches by 25 inches plus a margin of 1 inch, so all together 15 by 30 inches. On this plot plan you should put down everything on the grounds—the house, front yard, rear area, every tree, pole, incinerator, walk.

All this is easy enough, once you make up your mind to do it.

2. Next, do some thinking. What is your garden for? Just to say that you want to grow flowers, trees, and shrubs, is not telling the whole truth. Most of us want relaxation. One clever newly-wed said: "I want my garden for soul therapy." She meant just that.

If we are quite honest with ourselves we may admit that we want to show off a bit in our garden as we do in the living room. There is nothing wrong with that!

Some people use a garden to entertain their friends for then carpets can be kept clean. Others find in the garden a chance to show their artistic bent; they can make a permanent, live picture in plants.

Most of us want to give our house the proper setting. Some want to attract birds, and discourage dogs and cats. Some want a rose garden, an iris collection, a rock garden. Where there are children, certainly there should be a play area.

Evidently the question is not as simple as it might at first seem. Now then, to pin all this down, we should put our needs and wants down in black and white—even the seemingly unattainable wants. Perhaps a compromise is possible, once you face the matter squarely.

3. Having the plot plan, and knowing what you want, you can begin to figure out how to realize those wants. Here is where technique helps out.

A simple "rule of thumb" tells us to keep an open center in both front and back, to screen out undesirable things, to frame desirable views, to plant trees where you want shade, and to put flower borders where there is sun.

To begin with, then, indicate on the plot plan what you can see from the windows of the house by lines, and what is the best view toward the house and in the garden. Roughly show where the service area is to be, where the choice spots are for sitting, and how much room is needed for playground, driveways, walks.

The best way to arrange these preliminary try-outs is on tracing paper placed over the drawing of house and yard. If the first attempt does not satisfy, take another piece of tracing paper, but keep the first one. After two or three trials you may find that each one has good points.

4. A good systematic method of planning is something like the following:

a) Begin with the location and size of the patio, grape arbor, sitting area, or what not.

b) Make rough circular areas for the main divisions: front yard, service area, playground, rose garden, vegetable garden.

c) If there is a focal point in the garden, or more than one, indicate this on the plot plan. It may call for a main axis to keep open.

d) Be sure to create seclusion. Your garden is for your benefit, not for neighbors or the passer-by. This may mean border plantings.

e) Foundation plantings are generally called for: lowish shrubs, evergreen or deciduous, around the house but not in a continuous row.

f) Locate trees just where they'll give pleasant afternoon shade.

5. Only after all these preliminaries are done, is it time for the decision of what to plant. The landscape architect puts it this way, that a general plan must be made before a planting plan is decided upon. Here is where descriptions in catalogs are most helpful and where a number of visits to a local nursery is indicated. This article does not aim to tell you what to choose for that is another story—an important one. But be sure to consider height of material, color, and texture, and plan for interest in the garden all the year through.

The average gardener is apt to follow these principles of design* by intuition if he or she has artistic temperament.

* The definition of the above design principles may be found in any good art book or good book on flower arranging.

ESPALIER

“Espalier” is a French word meaning “trellis” and is used to indicate the training of ornamental shrubs or trees against a wall or fence.

The tree or shrub is planted within a foot of the wall. As the new growth develops, prune out the wood growing away from the wall. In this way, a formal or informal branching system can be developed. The main limbs may be fastened to the wall by nails or screw eyes inserted into the mortar joints or woodwork. However, if a regular pruning job is done, little tying up is needed for most plants.

Pruning must be done several times during the growing season. It is desirable to select a plant that has a suitable branching system for further training.

This method of training plants has become very popular. The large expanses of brickwork on many of the newer homes is particularly adapted to this type of planting.

Espaliered plants take up less room in a small garden and can be an attractive focal point or an accent in the base planting.

Anyway, here they are:

1. Unity and variety
2. Dominance and subordination
3. Rhythm and repetition
4. Scale and proportion
5. Balance
6. Sequence
7. Opposition and transition

And last but not least are a few items which should not be forgotten:

Difficult in many new home grounds are the locations of incinerator, clotheslines, compost pile.

Important are types of fences and garden furniture.

Intriguing are rock gardens, water features, and garden lighting.

In conclusion let us express the conviction that every garden lover can create a garden that typifies and does credit to him if he just does some sound and careful planning.

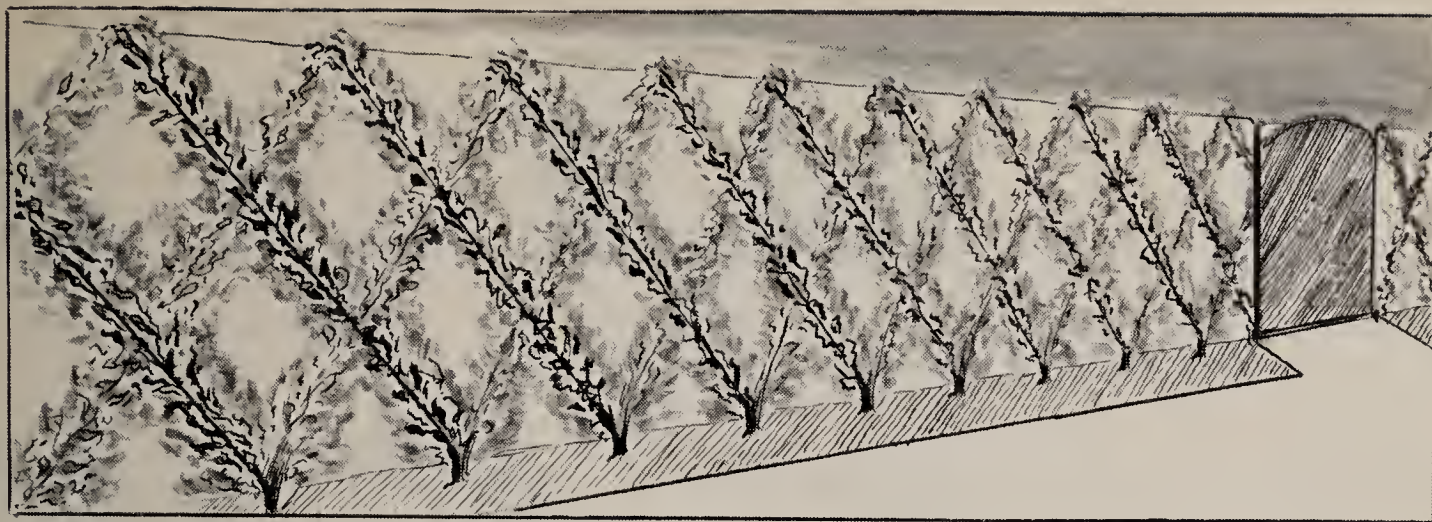
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LIVING SCREENS

By ROBIN LONG

LIVING screens, as applied to gardening, may include any material that is used to block out undesirable views or give a feeling of intimacy to a patio or outdoor area. These screens may consist of hedges, shrubs, vines on fences, or even trees, as long as they create the desired effect. Here is where your imagination and taste may run riot if you always keep in mind the general design and unity of your plan.

In deciding the usage of a living screen, consider the space you have available. Perhaps you wish to mark a boundary, keep dogs or children out of your garden, or block out the objectionable view of an alley, ashpit, clothesline, or a vacant lot. It may be used to soften architectural lines, or just to make your lawn areas more intimate. A screen can shorten a long-narrow yard or give a feeling of spaciousness to a small one. Consideration of the texture and color of the plant material is very important in such cases. Fine texture gives depth, while coarse texture and strong color will reduce depth. The amount of space available and the shape of the area will, in a large part, determine the type of screen you should use.

Almost every place, whether large or small, has some spot where a fairly

narrow line of planting is needed. This usually means a hedge. A hedge is really a living fence, or a wall of live plant material instead of wood, iron, stone, or brick. It is needed where space is more or less limited or where a definite geometric line is appropriate in the general design, rather than a soft irregular mass.

The obvious hedge for such purpose is a sheared or trimmed line of plants, formal in feeling. First, determine exactly how much room you can give to this hedge when it is full grown. Too often a small hedge of very free-growing material is planted without regard to its natural size or habit of growth and has to be replaced within a few years. Second, the hedge shape should conform to the general shape of the plants used. Otherwise, you will have to struggle to make the plant conform to an unnatural habit.

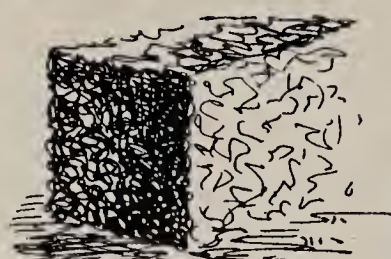
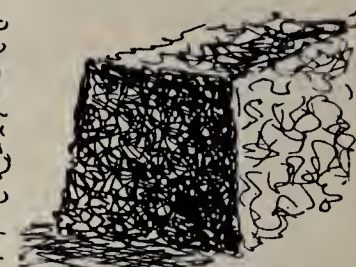
Another important quality is the branching habit of a shrub. The ones that make the thickest, best hedges are those with many twigs and branches from top to bottom and which are broader at the ground than at the top.

Rate of growth is important in the amount of pruning a hedge needs. Any plant which grows two or three feet a year is difficult to keep in bounds. If, on the other hand, it grows only

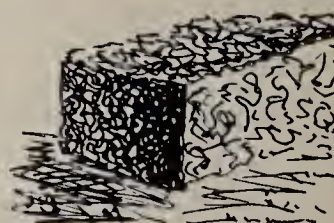
HEDGE TYPES

*Formal (Clipped)**Informal (Unclipped)*

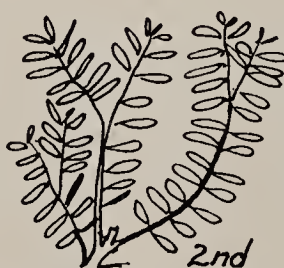
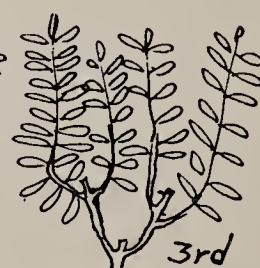
HEDGE SHAPES

*Usual**Better**Best*

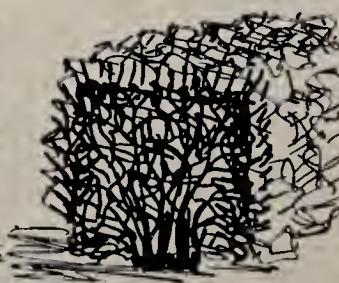
HEDGE CUTTING

*Plant**Cut Down**First Growth*

INCORRECT CUTTING

*If cut too late or too long—**Bare stem, broom above*WHAT HAPPENS
WHEN A PRIVET
HEDGE IS SHEARED*1st**2nd**3rd**4th**New Growth is Doubled with each Shearing*

HEDGE TRIMMING

*Don't wait too long**Trim new growth**After Trimming*

FRANCES A. WHITE

five to six inches a year, pruning needs to be done less often. This rate of growth should be checked in your own vicinity, not taken from a list of plant material in some other part of the country.

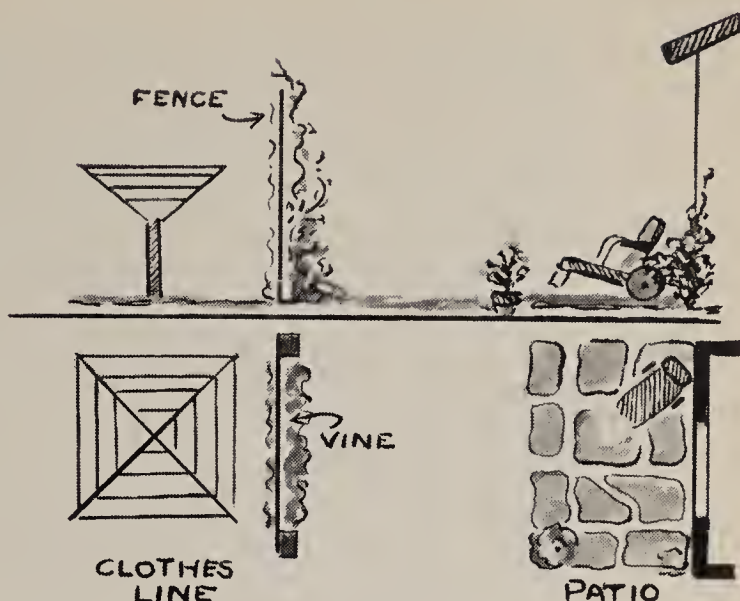
In order to keep a hedge uniform and attractive, the plants must be of some variety that is tough and hardy in your own locality, fairly free from pests and disease, and reasonably uniform in growth. Otherwise, the result may resemble a little boy who has lost some of his teeth.

Small-sized plants are most often used to start hedges. This reduces the cost, makes the hedge easy to plant, and gives the gardener a chance to cut the plant back severely so it will have many stems coming from the bottom to thicken it. Medium height hedges are usually planted by digging a continuous trench about a foot deep and a foot wide the whole length of the proposed site. Plants are then spaced about a foot apart in a single, straight line or are staggered in a double line. Plants for low or very tall hedges may be planted closer or farther apart depending on the kind of plant and denseness desired.

In Colorado, some of the better plants for tall hedges, 4 to 8 feet, are Russianolive, Siberian elm, and Siberian pea shrub. These are especially useful for dry, hot, or alkaline conditions. Persian lilac and English hawthorn may be used up to 9000 feet elevation.

For a small home, a medium height of 2 to 6 feet is more appropriate for hedges. This group includes privet, cotoneaster, honeysuckle, spirea, and juniper.

For low hedges, 1 to 3 feet, true-hedge columnberry, loddense privet, and Alpine currant are recommended. For lists of shrubs in Colorado see



George Kelly's book, "Good Gardens in the Sunshine States."

Unless you are willing to trim a hedge carefully between 2 and 4 times a year, you should not consider having a formal one.

When you enter the field of untrimmed hedges, you can really use your imagination. Without the demands of a formal line, there are endless possibilities for creative effects. Again, proper selection of plants is important, and the same qualities of hardiness and natural size apply. Untrimmed flowering hedges have special beauty, often resembling a great corsage with a frill around it.

Even years of neglect have not seriously hurt untrimmed hedges of old gardens. Whether evergreen or deciduous, they should be trimmed only lightly or not at all. Certain low spreading evergreens are well adapted to this type of screen and are effective winter or summer.

While there are many excellent shrubs of the untrimmed variety in Colorado, some of the more interesting ones are Austrian copper rose, Harrison yellow rose, red twig dogwood, bladder senna, euonymus, high bush cranberry, and grey dogwood. A hedge of smaller types, such as Austrian copper rose or red twig dogwood,

could be used along the far property line with a group of shrubs at either end to give a pleasantly shaped curve to the back of the lawn.

Closely related to the use of shrubs for fences is that of training them flat against a masonry wall or against a wood or wire fence. This is known as espalier. In newer houses with their wide wall spaces unbroken by windows this kind of planting is appropriate and versatile. The more familiar type of trained or espalier shrubs is the one which is trained to a definite pattern, usually either fan-shaped or U or double U form. This gives them a certain formality which makes them more suited to tailored parts of garden walls or paved terraces.

The plant chosen should have a fairly sturdy branching habit without too many side twigs. It should not be

too fast a grower so that the severe pruning which such training requires will not result in a wild mass of soft sucker growth at each cut. If fruit trees are used for such purpose they must be on dwarf root-stock.

In less formal applications, shrubs of more picturesque and gnarled habit are interesting. *Euonymus* with its corky wings is one of the best. All these shrubs should be at least 8 inches from the wall and provision made for support.

Whether you plan a formal hedge or an informal screen, remember you are planting for years to come. Such living screens might be used to mark boundaries of areas, to soften severe architectural lines, or to secure seclusion for certain parts of the garden. In any case plan as you plant and have years of enjoyment ahead.

World's Largest Garden Show To Be Held In Paris, France

Paris, France, will be the scene of the largest collection of plants and flowers ever assembled in one place. The show, called the International Floralia 1959, will be held in the new completed Palais de la Defense (largest exhibition hall in the world) from April 24 to May 3.

Open to tourists as well as to professional horticulturists, the show will encompass displays from almost every corner of the world, including as two of the biggest exhibitors the United States and Russia. There will be flowers and plants in both ornamental and industrial units, whole gardens reproduced as in their native territory; ornamental and fruit-bearing trees, tropical foliage, and newly developed strains and varieties in almost every possible category. A special section will be devoted to the flower as it appears in art; another to perfumes extracted from flowers. A Turkish exhibit tracing the history of the rose from antiquity to the present day and displays of stamps and of tapestries which have incorporated floral themes will be some of the other contributions to the exposition. Outside the Palais, a garden consisting of 200,000 prize hyacinths and tulips sent from Holland will provide appropriate surroundings for the hall.

Approximately 3 million visitors are expected to see exhibits from the 80 participating countries.

This sounds like the Granddaddy Garden Show of them all but just to prove the Rocky Mountain region has some gardeners, Denver will put on its own show in 1960. Watch for developments of it in *The Green Thumb*.



Photo courtesy G. M. Basford Company

Easier Gardening This Summer

SPRING comes, and America goes—outdoors. The lawn, garden and patio become the focal point of family activity. Lawn parties, al fresco dining and barbecues are the order of the day.

A lovely complement to gracious outdoor living is a beautiful garden. It may be several acres of rolling lawn and formal shrubbery or a tiny plot tucked away in the midst of a large city.

But, large or small, one objective is uppermost: a lovely garden with the least effort.

The right tools make for easier gardening. Tools should be adapted to the size of the garden. Power implements, for example, are fine for larger areas, but are not economical for small plots.

Hand tools should be suited to the capabilities of the gardener. For women, smaller and lighter tools are available.

Small hand tools do the work in flowerbeds. Use the trowel for digging up seedlings and small plants, and for general chores. A three-pronged fork does weeding without damaging your flowers, and keeps the soil loose.

Use a hand rake to mix in fertilizer. You will be rewarded for your efforts with sturdier plants.

For a luxurious lawn, use a weeding knife at the first sign of crab-grass which escaped chemical weed killers. This narrow sharp tool uproots the weeds, making only a small hole in the turf. Reseed the bare spot, or transplant some turf—perhaps from a trimmed-off edge of the flower bed.

Hand tools may present maintenance problems because of contact with moist soil. Also, they are apt to be left outdoors overnight and the metal begins to rust. The best insurance against rust is stainless steel. Stainless steel tools never rust, even after a heavy rain.

Stainless steel tools are stronger than tools of other materials, and always retain their sharp cutting edges. (They last longer too.)

When you have selected your tools, and a few blooms bring encouragement, you'll start to landscape your garden. Simplicity is the key — in hues, lines and upkeep. Flower beds brought closer to the house create "outdoor living rooms."

Selection of plants and choice of a design for your garden come next.

If you've enjoyed the fragrance and rich red of roses, display them at *two* levels. Floribunda rose, Spartan, gives a great deal of color in the least space. Upkeep is minimal.

Clean and simple lines—such as tulips and forget-me-nots arranged in simple border outline—glorify a terrace. You'll be pleased, too, at the variety of their sizes and colors.

For an effect of lush growth and glowing hues, one-color floral masses with longer borders are dramatic.

Another novel idea is a restful, uninterrupted lawn with a trim border. A solid one color border of roses that blend with the color of a house, and evergreen hedges are best for this. Easy to care for, they create maximum beauty in a short time.

The old spatterdash treatment of pansies and other small charmers has also given way to simplicity. Try setting big families of each color-group together for a pleasing effect.

If it's *new* flowers you're after, there are lots to pick from. You'll find dozens in seed and plant catalogs—delighting the beginning gardener and green-thumber alike.

Climax marigolds—pure yellow and orange—produce the biggest balls of curled petals, yet are easily grown from seed. A new perennial? Try the deep purple-violet of the best pansies.

Petunias offer an innovation of their own—White Satin. It's new for '59. Many others await you in gardening shops.

If you're a "rookie," a wonderful world of color and growth are in store for you as an amateur gardener. If a veteran, you know there's no end to new arrangements to delight you.

With the right tools and some know-how, it's fun for every one.

AN ARBOR DAY THOUGHT

APPLE (*Pyrus Malus*)

What plant we in this apple-tree?
Sweets for a hundred flowering springs
To load the May-wind's restless wings,
When from the orchard-row, he pours
Its fragrance through the open doors;
A world of blossoms for the bee,
Flowers for the sick girl's silent room,
For the glad infant sprigs of bloom,
We plant with the apple tree.

—Bryant—*The Planting of the Apple Tree*

How To Start Your Own Plants From Softwood Cuttings

By BILL LUCKING,

Superintendent of City Nursery

This is the third in a series of articles on Plant Propagation as told to
The Green Thumb Staff.

PROPGATION by means of softwood cuttings is an easy way to multiply many kinds of shrubs, trees, evergreens, perennials, and annuals. As was stated in the first article in this series, it is the only way to multiply plants which won't "come true," that is, resemble the parent plant when reproduced from seed. If you had a red coleus, for example, and wanted more plants of exactly that color, softwood slips would be the only sure way to get them. But there are tricks to all trades and propagating softwood cuttings is no exception.

WHEN TO MAKE CUTTINGS

As a general rule, softwood cuttings should be taken in late spring and early summer from the current season's growth that has nearly mature foliage (the unfolded leaves have begun to darken in color). Early morning is the best time to cut them but don't take too many at a time. After cutting, dip them in cold water for 5-10 minutes. If they can't be put in their rooting medium immediately, cover them with wet burlap and store them in a cool place. The sooner they are put in the cold frame, however, the better. The length of the slip will depend on the type of plant. Shoots covered with closely spaced leaves can be fairly short. Those having leaves spaced an inch or more apart will naturally have to be longer, but a good average length is 1½ to 2 inches long with the cut just below a node or joint. Take off all lower leaves leaving a tuft of them

at the top to produce food for root growth.

EVERGREEN CUTTINGS

Not all evergreen slips root easily—pines and spruce do not—but Pfitzers, Savins, Tamarix, and low trailing varieties should be easy. The slips should be taken in April or May and are usually longer (4-5 inches) than other softwood cuttings. Strip clean of leaves or needles the lower 2 inches of the stem and pinch off a little from the top. These will take more time to root than deciduous shrubs and should be left in the frame all summer for planting in fall. Do not use any root promoting hormones on evergreens. If you wish to experiment, try some on deciduous or herbaceous plants.

Evergreen cuttings need as much light as possible so keep the glass in the sash covering the cold frame clean and the sand, 8 inches below the glass, moist but not wet. Most deciduous shrubs root easily from softwood cuttings and the following are particularly easy for beginners: red barberry, privet, butterfly bush, dogwood, Alpine currant, forsythia, honeysuckle, lilac, dwarf ninebark, hydrangea.

CONTAINERS

Anyone wishing to root just a few slips can use almost any kind of container—small boxes, greenhouse flats, flower pots or boxes, small cold frames, etc. A cold frame, described and illustrated in the seed propagation article in the March issue, is ideal. Put it in a shady location or under a shade



Parent plant before slip is taken.



Cutting is now ready for insertion in rooting medium.



Cutting is placed in cold frame or flat for rooting.



Lower leaves are removed from slip.



Using glass filled with water and covered with foil for starting a few cuttings in the home.



Above: Trimming foliage off of Pfitzer cutting.

Below: Slip is now ready for rooting.



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house which is just a lath frame on posts. Burlap or muslin should be added to the top of it for extra precaution against sun. Again, keep the glass in the sash clean to let in as much light as possible (barring sun) and keep the frame tightly closed to keep the humidity high. If the weather is cloudy and damp and there is much condensation on the glass, open the frame just briefly in the morning to let out the excess moisture.

ROOTING MEDIUMS

The most generally used rooting medium is clean, fine sand. (Locally in Denver, Colorado, Cherry Creek sand is excellent.) But for small containers vermiculite, perlite, or just plain water are fine.

For African Violet leaves, fill a glass with water to within $\frac{1}{4}$ inch of the top and cover it with aluminum foil, letting it come down on the side of the glass about an inch. Stick the stems through the foil into the water.

**QUANTITY PRODUCTION OF
SOFTWOOD CUTTINGS**

Propagation in any quantity has to be done in a greenhouse or in a large

cold frame outside. If a greenhouse is available fill a flat or a concrete "bench" with 4 inches of clean, fine sand. Pack the sand down hard, then take a knife—an old butcher knife will do the trick—and make a narrow furrow for the cuttings. They may be placed as closely as an inch to 2 inches apart. After they have been inserted, take a board 2 inches wide, an inch thick, and the length of the flat. Lay it along side the cuttings and tamp it with a hammer. This firms the sand around the cuttings and at the same time makes a mark for the next row. Water the plants well and keep the sand moist at all times. Greenhouse glass will have to be shaded to keep direct sunlight off the cuttings which will root in 3-6 weeks. As soon as roots have formed and are a half inch to an inch long, pot them in good loose loam—one-third peat moss, one-third sand, one-third soil.

A lot of fun and profit can be had by experimenting with softwood cuttings—they are the easiest to work with and usually give the most satisfactory results, so if your yard needs a few additional plants, try multiplying your own.

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DWARF FRUIT TREES

By FREDERIC A. ADAMS,
Men's Garden Club of Denver

SEVERAL years ago, Dr. Aubrey C. Hildreth, Superintendent of the U. S. Department of Agriculture Experimental Station at Cheyenne, Wyoming, was good enough to be the speaker at one of our Men's Garden Club meetings. He spent the night at our house and before he left the next morning, I questioned him on various points of horticulture. Never, before or since, have I secured so much valuable and authoritative information.

One principle which Dr. Hildreth emphasized particularly impressed me because of its basic soundness. He said, "Never assume that because a plant does well under one set of growing conditions it will do equally well under a different set of conditions."

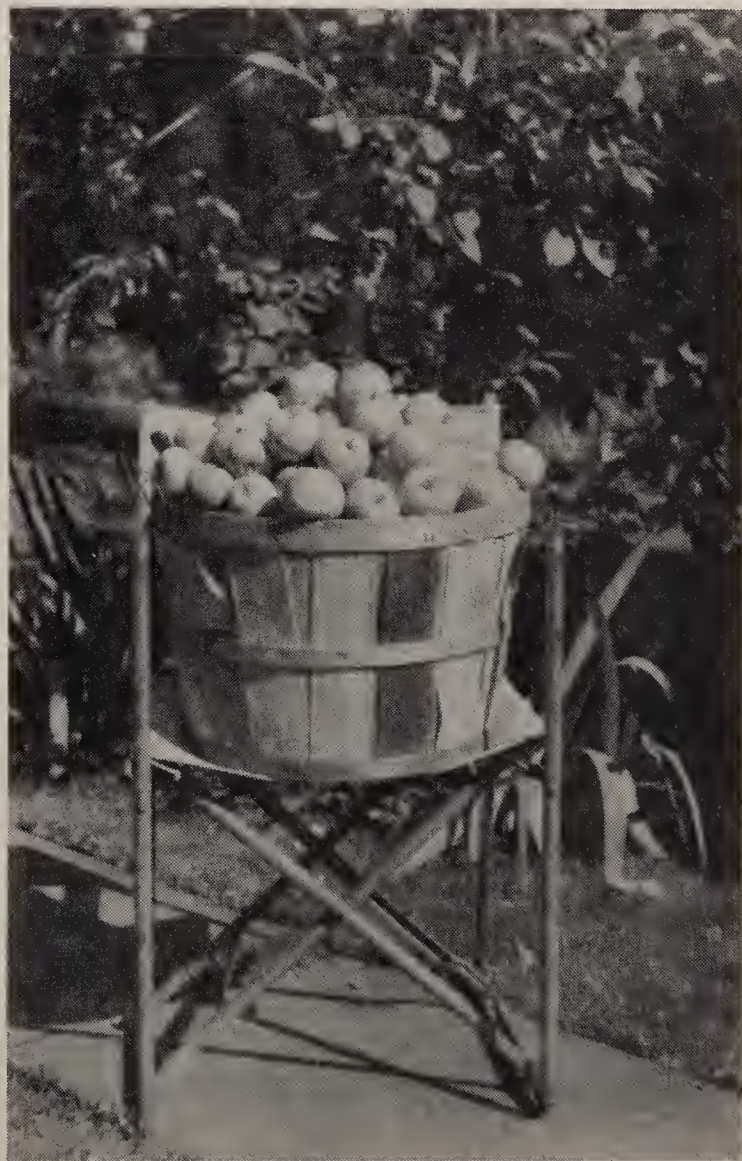
We know that dwarf fruit trees do well in the East, but for many years Colorado horticultural authorities have been highly skeptical of their growth possibilities in this part of the West. However, it is always interesting to experiment.

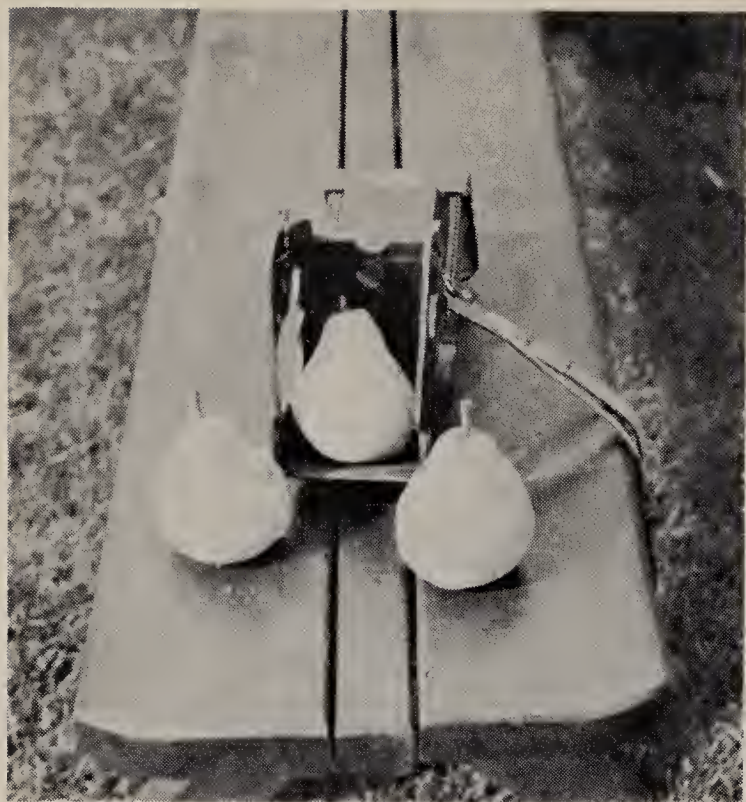
Back in April 1950, I purchased from the Henry Leuthardt Nursery at Port Chester, New York two fruit trees, one an apple grafted on to Malling Number VII rootstock, and a Passe Crassane pear grafted on to Anger Quince for dwarfing purposes. The apple is a semi-dwarf. My interest in this undertaking was motivated by the well known Denver horticulturist, Robert E. Ewalt.

Both of the above trees have done well. The apple, Duchess of Oldenberg, ripens in July. On the 27th of that month last year, I harvested one and a half bushels of apples which are of medium size, juicy, and full of flavor. They made delicious pies for

our luncheon round table, now an annual event. The picture shows these handsome apples just after they were picked. The variety is one of the best all purpose apples and was one of the first exported from Russia. It inspired interest in a group of varieties which made fruit growing possible in the colder parts of America. It thrives north, south, east, and west on many soils but always requires good care. It was imported to this country in 1835 from England.

The Passe Crassane pear is in a class by itself. This is the pear which, in Paris restaurants, is regarded as superior to all others. That statement is rather significant because it is well known that the most expensive food





Three large Passe Crassane Pears.

item on the menu of a Paris hotel or restaurant is fruit.

White collar workers in Paris, save up their francs until they have enough to buy a half acre of land in the nearby country side and then retire to grow this pear. The Passe Crassane blossoms early but has a long growing season, ripening in late September. Experience indicates that results are best when this fruit is allowed to remain on the tree until it turns a mellow yellow. Then pick it and bring it inside to a cool, dark place for about a week before eating—they'll melt in your mouth!

On the 10th of last September I picked 43 pears from this tree much against my wishes for they were still green. I had no choice, however, because some of the hungry youth of the city had begun to knock them down. That green, they proved impossible to ripen in the house.

A word about spraying. Anyone interested in growing fruit should write to Colorado State College at Fort Collins, Colorado for a fruit spraying chart. The chart offers a rather wide selection of sprays. If it is followed

carefully, no trouble with codling moths or other insects is likely to occur. Early morning, when the air is still, is the best time to spray in the city. This is particularly true since some of the sprays are highly poisonous and should never be used when there are children about.

Do *not* use an oil spray. Last season I started spraying on May 22 using Malathion and D.D.T., plus an oil spray as a spreader and sticker. On June 2, I sprayed again using the same combination. The weather was cool both times and I got away with it. On July 9 the same spray was used. The temperature hit 96 degrees on July 13. Leaves began to dry up but I put that down to too much D.D.T., and left it out of the new spray on August 5 which was followed by a hot spell from August 6 to 15 ranging from 91 degrees to 97 degrees. By August 16 the Passe Crassane pear had developed what appeared to be a case of fire blight, the leaves turning black and falling off. This was surprising because the tree had never previously been afflicted with blight.

Fearful of losing the tree, I called for the expert advice of Pat Gallavan, Executive Manager of Horticulture House, and Henry Norden of the Denver Forestry and Landscape Company. Each of them examined the tree personally and diagnosed the trouble as arising probably from the use of an oil spray in hot weather and not fire blight at all. There were no cankers and no shriveled twig ends. So pass up oil spray and use a good sticker instead.

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Back

To The

Cabbage Patch

By HERBERT C. GUNDELL

Denver County Agricultural Agent



PROBABLY the greatest reason for the new look in landscaping has been the desire of families to use the garden for different purposes than they did 25 years ago. Today a backyard is blended so much into the home that it is an outdoor living area in every sense of the word. While, at one time, the garden was considered a likely spot for rest and relaxation, today it is a center point of activity and family recreation.

We simply cannot establish a recreational center in the family garden or outdoor livingroom without pushing some time-honored garden features to the periphery of our lot or altogether into oblivion. One of these, the vegetable garden, has suffered, at least partially, such a fate. Twenty-five years ago nearly one-half of the backyard was for producing food for the family table. Not only was the need for such home-grown vegetables greater, but it was considered economically sound and practical to can and preserve one's own garden produce.

Today, this is no longer so. We have to admit that our groceries and

supermarkets are filled with fine, fresh fruits and vegetables of almost standard quality the year around. Perhaps they are not quite as good as we can grow ourselves, but economically they are not expensive and are easily obtainable year around. Frozen products have also competed strongly with home-grown vegetables and fruits, not only because much of the cleaning and preparation labor is done away with, but also because the quality and technique of preservation of fresh-frozen products have improved tremendously in the last 15 years to the point where some frozen vegetables today are almost as delicious as those grown in your own garden.

We are not trying to set up an argument against vegetable gardens—nothing could be further from the truth. We should, however, look at vegetable gardening in the average backyard as family enjoyment and as an educational enterprise. Certainly we realize that from a financial standpoint, it can hardly be defended in this day and age. But we do feel that there are certain garden vegetables that are absolutely superb when they are home-

grown and eaten quickly after harvesting. Actually since we have moved the vegetable garden from a prominent spot in our backyard to the periphery areas where it will not interfere with our outdoor recreation and play, we should not only limit it in size but also limit it to those vegetables which, from a standpoint of quality and flavor, are unequalled by any product bought fresh or frozen at the corner market. Among the following, we are sure you will find some to your own liking.

First of all, we recommend those vegetables which go into fresh salads such as leaf lettuce, radishes, green onions and, if you like, green peppers. No one will argue the point that it is not only fun but also profitable to grow your own tomatoes. When vine ripened, this fruit is so loaded with quality, goodness, and flavor that it cannot be compared to any bought in the market. Relatively easy to raise if given adequate care, there are many good hybrid tomatoes to choose from. Of all the garden vegetables which we may grow and enjoy, probably the most difficult to equal in tenderness and flavor is sweet corn. Here is a vegetable that, when picked only a few minutes before the ears are dropped into boiling water, is so delicious that no bought product can come near it.

Also green snapbeans are relatively easy to raise and are much better when freshly picked than when bought because it is almost impossible to preserve the top quality of this product for more than a few hours.

If you have space, we recommend summer squash, not the vining type, but the bush type.

I, for one, love summer squash of the Zucchini type, and certainly it is prolific enough to supply you and all your friends and neighbors with all everyone can eat for most of July and August.

Some vegetables, in this day and age, are really impractical to grow at home. Among them are some of the cabbage family, including cabbage itself, cauliflower, etc. You can usually buy these products at the store for less money than it takes to purchase necessary insecticides for them. Actually, if you have that kind of extra space, why not plant a packet of good carrot seed? You will find that here is a lot to be had for a little space in good, well-drained soil. You can harvest carrots up to Thanksgiving or even Christmas time and enjoy their goodness and flavor long after the garden season is past history and winter is once again upon us.



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Good Progress Has Been Made in Providing Better Roadside Parks



DURING 1958, Colorado progressed materially in providing better equipped, park-like rest areas along the major highways, yet the accomplishments were only a "scratch on the surface" of what is planned for the future.

When the 1957 Legislature reorganized the State Park and Recreation Board and provided funds for development of better conveniences for highway users, the Board was quick to recognize that "State Waysides" as adopted by the National Conference on State Parks for such areas, would be a better name than "Roadside Parks" which has been used for many years for the turn-offs provided by the Department of Highways and other interested organizations.

It was generally felt by all concerned that a very great need existed in the Eastern Plains section of the state. Only a few of the more than 200 turn-offs maintained by the State Highway Department are in that section of Colorado through which many tourists pass before reaching the more scenic sections of the state. An inventory revealed that only a few Roadside Parks have drinking water available, and at practically none were

toilet accommodations provided. At most of the turn-offs there were only one or two picnic tables in the shade of some small tree, and in many cases, there was no shade at all. Usually a trash can was provided. Practically nothing had been done to give a more "park-like" appearance to the turn-offs.

Being aware of this situation, the Board adopted a policy whereby they would provide more and better accommodations for any "State Wayside" established under their program with the provision that the Board of County Commissioners of each county in which the wayside was developed, would be required to accept the primary responsibilities for maintenance. In most cases, however, a nearby community or civic organization accepted the actual maintenance responsibility. The Board expressed the hope that not less than four to five acres would be made available to justify the installation of the extensive facilities it would provide. It also adopted a policy of providing all waysides with drinking water and sprinkling facilities, toilet accommodations, shade shelters, picnic grills and tables, and refuse cans. In order to establish and/or pre-



General view of Little Beaver Wayside Park.

serve a "park-like" appearance, the parking areas and entrance roads are bordered with concrete block or post barriers to protect the lawn areas and landscaping so essential to an esthetic development for day use. There is a policy prohibiting over-night camping or parking to prevent extended stays by itinerants who would multiply the maintenance problem.

One way roads are to be established, with turn-offs for trailers, thereby eliminating congestion.

The development of such facilities was done by the Honor Work Camp from the State Reformatory under the direction of Reformatory officers and in accordance with plans prepared by and under the supervision of the Director of the State Park and Recreation Board. Many of the facilities were prefabricated at the Reformatory prior to starting field work at Brush in May.

Requests for these new facilities were slow in coming, but as soon as a few State Waysides were completed, calls started coming in to the department office for them, especially in the Plains section of the state.

As of January 1st, five State Waysides have been completed at the fol-

lowing locations: Brush, on U.S. 6, just east of the Port of Entry; Julesburg, one mile south of town on State Highway 51, along the Platte River; Wray, adjoining U.S. 34 on the west edge of that city; near Idalia, two miles east of that community at the intersection of U.S. 36 and State 51; Burlington, on the east edge of the city adjoining U.S. 24.

A start has been made on the development of a Wayside east of Limon, adjoining U.S. 24 and 40, but the early December freeze made the Camp move back to the Reformatory. However, during warm spells throughout the winter season, the development of an area in Buena Vista adjoining U.S. 24 has been practically completed. It will be ready for the 1959 season before the Camp moves into the eastern section of the state for another summer project development.

The projects which have been designated by the State Park and Recreation Board for development during the coming summer and assurances received for the maintenance thereof will be located as follows: near Lamar, along U.S. 287; at Fossil



Close-up view of picnic shelter.

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Creek, along U.S. 87, four and a half miles north of the Loveland Circle; at Springfield at the intersection of U.S. Highways 160 and 287. Other potential projects, yet to be formally designated for inclusion in the 1959 program are the following: near Eads, along U.S. 287 and 96, just east of the community; Cheyenne Wells, adjacent to the Cheyenne County Fairgrounds on U.S. 40; in Cope, on U.S. 36; and Towner, on U.S. 96, one and a half miles west of the Kansas line. It is also possible that a start

may be made on some Wayside developments on the Western Slope.

Thus, by the end of the second year of this new program, it is expected that not less than fourteen State Waysides will have been completed and many out-of-staters, in their "Rush to the Rockies," will have enjoyed the conveniences. They will know that Colorado has made a start in laying out the "Welcome Mat" as a forerunner to the establishment of a well-rounded system of state parks and state recreation areas.

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GARDEN SHOPS



GARDEN CLUB BRIEFS

By MRS. EDMUND W. WALLACE,
Federated Garden Clubs

August 1 and 2 are two important days to mark on the calendar. In connection with Denver Fiesta Days, the State Flower Show is to be held at the Denver U. S. National Bank at 17th and Broadway. The theme of the show is to be "Colorado Columbines to Carnations," carrying out the plant history of Colorado. Some of the intriguing classifications are as follows: from Pewter to Haviland; Pony Nelson to Pink Poodle Posse; Grandmother's what-not to Granddaughter's T.V.; Gold Dust to Gold Bonds.

There is to be a men's class entitled "Burrows to Bulldozers" which will give scope to the stronger sex. Plant society displays will be on exhibition. Advance entries, limited to five per class, will mean easy viewing and less crowding of entries. We anticipate that the show will be a rewarding experience.

The thirtieth convention of the National Council of State Garden Clubs, to be held in St. Louis, Missouri, May 10-14, is especially important because of the dedication of the National Council's headquarters in world-famous Shaw's Garden. The program lists such prominent men as Dr. Kenneth McFarland who will speak on "Open the Garden Gates;" Dr. R. McArdle (Chief of the United States Forest Service) on "Gardening—Large Scale;" Dr. Edgar Anderson (Research Director of Shaw's Garden) on "Adventure and Research." Other excellent speakers, a pageant, and flower arrangements made by the National Flower Show School committee will add to the excellence of the convention. Then add to this list a special performance of the famous chimpanzee show at the St. Louis Zoo in Forest Park and a tour of some of St. Louis' most outstanding gardens and one has some idea of the excellence of the entertainment and education planned. After April 10 the reservation fee will be \$60 which includes registration fee, business sessions, four banquets, tours, entertainment, and transportation. Mrs. John Nickels, 133 North Sherman, Littleton, Colorado, may be contacted for registration and hotel blanks.

State Flower Show School Course No. 2 is scheduled for May 5, 6, and 7 with Mrs. J. Arthur Nelson of Omaha, Nebraska, teaching Floral Design and Color, and Herbert C. Gundell, County Agent for Denver, teaching Horticulture and Flower Show Practice. As usual, one may attend the Flower Show School on any day for a small fee, and the inspiration received is good for layment as well as student judges.

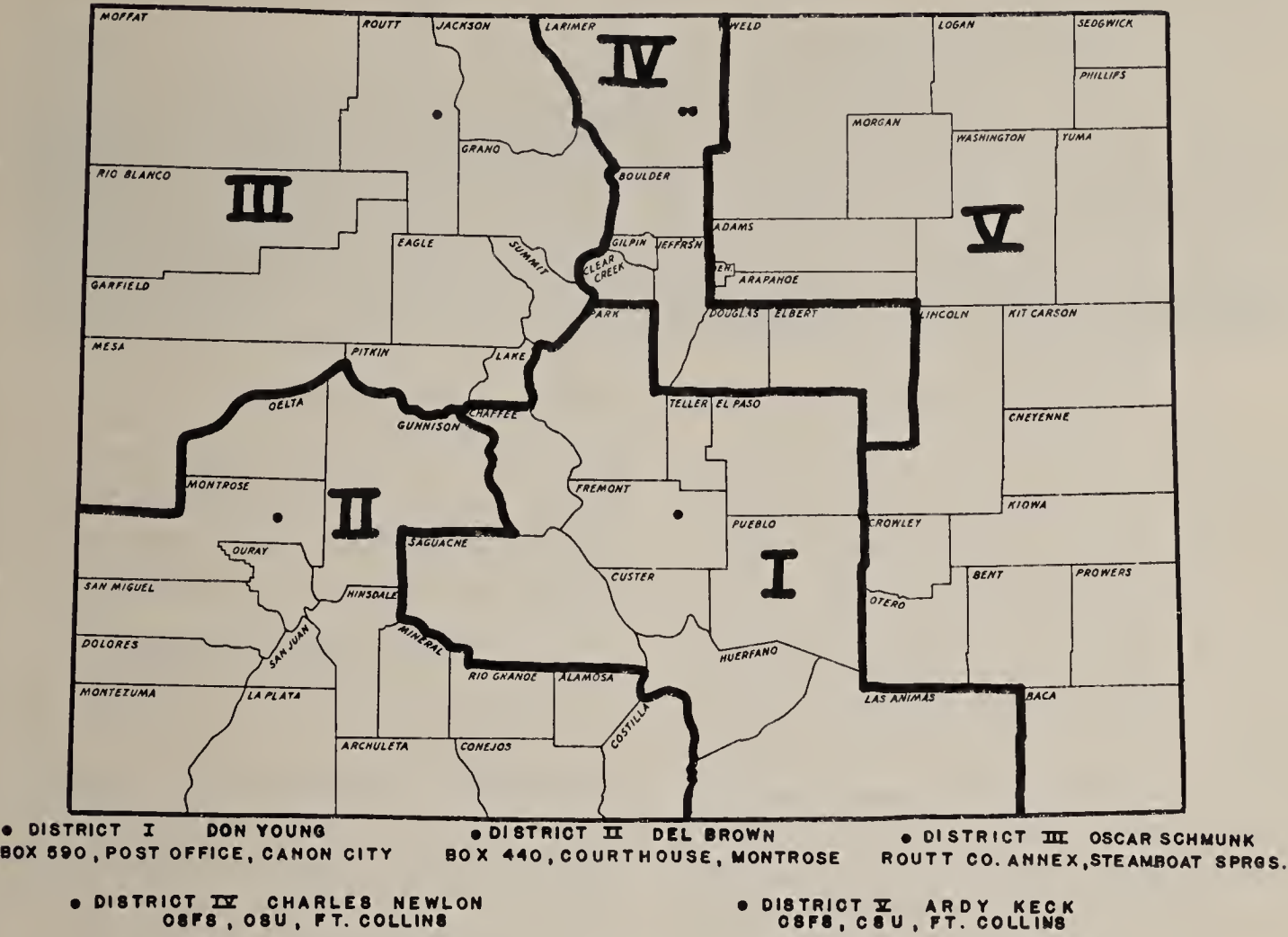
COME AND GET 'EM — NOW! We have a large assortment of common and unusual ornamental plants. They are just begging to be planted out real soon by some good gardener who will love and care for them.

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COLORADO STATE FOREST SERVICE
DISTRICT HEADQUARTERS



The Colorado State Forest Service

By DALE L. SHAW
Assistant State Forester

COLORADO was the first state in the Union to include a provision in her constitution for the protection of forested lands, and organized the second forestry association in the United States. This association originally known as the Colorado State Forestry Association is now the Colorado Forestry and Horticulture Association.

From this early beginning, many individuals and organizations have had an interest in and participated in the State Forestry Program. In 1955, the present Colorado State Forest Service was created by the passage of "House Bill 10" by the General Assembly.

The Colorado State Forest Service, under the direction of State Forester

C. L. Terrell, was made the fourth branch of Colorado State University with headquarters at Fort Collins. The staff consists of an Assistant State Forester whose responsibilities are in the field of Forest Management, Forest Fire Control and Small Watersheds, and an Administrative Assistant whose responsibilities are for fiscal control, purchasing, and personnel. A nurseryman and an assistant nurseryman are responsible for the production and distribution of seedling trees. Five District Foresters are assigned to carry out all phases of the state forestry program in the areas of the state to which they are assigned. Headquarters for these districts are located in Steamboat Springs, Montrose, Canon City, and



Colorado State Forest Service nursery building at Fort Collins, Colo.

two are in Ft. Collins. A warehouse and shop are maintained with a warehouseman and assistant in charge. This facility is used as the central point of distribution for fire equipment and the maintenance, repair and re-making of equipment for use in fire control.

During the first two years of the Colorado State Forest Service's existence, efforts were devoted to establishing an effective forest fire control program. After the fire control program had become sufficiently well established to meet the minimum needs of the timbered counties of the state, other phases of forestry were undertaken.

The responsibilities now assigned to the Colorado State Forest Service are in six broad areas. Activities now being carried on are as follows:

FOREST FIRE PROTECTION

Protection of approximately 7,004,000 acres of State and privately owned timbered lands is one of the principal assignments of the Colorado State Forest Service. Under the provisions of present State statutes, this work is carried on in cooperation with County Sheriffs and County Commissioners in those counties in which State and privately owned timbered lands exist. This involves the development of fire prevention programs, the establish-

ment of fire protection systems including selection and procurement of equipment, training personnel, and assisting in forest fire suppression.

TREE DISTRIBUTION

The distribution of seedling trees for windbreaks, shelterbelts, and reforestation plantings on Colorado farms and ranches has been actively carried on at Colorado State University since 1909. The Colorado State Forest Service is now carrying on this program, which involves the distribution annually of from 300,000 to 500,000 seedling trees.

Present indications are that the 1959 demand will require more than 700,000 seedlings for farm plantings.

There are two restrictions placed upon the use of these trees. They cannot be used for ornamental purposes, nor can they be resold as living trees.

NURSERY STOCK PRODUCTION

As a means of more nearly meeting the needs of the tree distribution program, Federal aid was provided to establish a seedling tree nursery at Fort Collins. This nursery was established to provide trees for the farm plantings throughout Colorado and some of the adjoining states. The capacity of the nursery is 2,000,000 seedlings annually. At present, production is limited to coniferous seedlings. This fa-

cility is used both for seedling production and tree distribution.

FOREST MANAGEMENT

Forest Management is a relatively new activity for the Colorado State Forest Service. This work began in October of 1955 and is now a major activity of the District Foresters.

Upon request to the District Forester, any private owner of forested land in Colorado may receive assistance in the proper management of his timber. This includes help in estimating timber volumes and growth, selection of trees to be harvested, and help in making timber sales. If thinning or pruning is needed, the District Forester will provide the necessary technical advice.

Anyone wishing more specific information on this program should contact the State Forester, Colorado State University, Fort Collins.

SMALL WATERSHEDS

The Colorado State Forest Service has been assigned the responsibility for technical forestry phases of the Small Watershed program. This involves assisting the sponsors of the project with the planning and operational phases of the program. These projects include such practices as timber management, insect and disease control, fire prevention, and tree planting.

FARM FORESTRY

The need for trees in the Plains area of Colorado has long been recognized. Farmers and ranchers have consistently attempted to establish tree plantings in this area. Heretofore, very little forestry assistance has been available to these landowners.

One District Forester has been assigned to the Plains area to advise landowners on selection of adaptable species, spacing and arrangement of species, and the proper care of the planted trees.

CLASSIFIED ADVERTISING

Holland gardener wants permanent position. Call PE 3-7727, Denver, Colo.

FOR SALE: European lindens, 3" diameter, 12' high, to dig yourself. \$15.00 apiece. Call RA 2-8880, Denver, Colo.

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FOR SALE, LIMITED TIME ONLY: Evergreen seedlings (Austrian and Scotch pines, one-seed junipers, Colo. blue spruce), 10 cents and up. Call Harry Swift, 14201 W. 44th, Rt. 1, Golden, Colo., CR 9-1682.

SALE! Bankrupt stock from garden center: redwood planters, fertilizer, fencing, picnic tables,

trellis arbors, plant food. All less than 1/2 price. Also antiques and miscellaneous, new and used furniture and appliances from unclaimed railroad freight. THE RED BARN, 10500 W. 38th Ave., Denver, Colo. Call HARRISON 4-6214. Open daily.

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AFRICAN VIOLETS—Select plants. Exciting new varieties my hobby. Large and small blooming plants. Call SPRUCE 7-6315. Residence: 1087 S. Madison.

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WHAT'S NEW?

A new *slide sprayer* put out by National Sprayer and Duster Association claims not only versatility but low cost too. Pressures up to 200 lbs. push spray into the tops of trees 25-30 feet tall. The nozzle can be adjusted for roses and small shrubs. All that is needed is a 10-12 quart pail to hold the spray mixture. The slide sprayer's suction hose leading to the spray pump is placed in the solution and spraying is done by operating the slide back and forth. It can also be used for window washing, white washing, fire control, and other uses where high pressure and range of spray are needed.

Phaltan is big news in pesticides for 1959. It is rated by pathologists as the No. 1 fungicide in the field today. A close relative of Captan, it gives the best control to date for blackspot. It is also a specific for downy and powdery mildews. It is better than sulphur and does not burn. It is also supposed to be highly effective for 'Iris leaf spot, chrysanthemum leaf spot, snapdragon rust, and fairy ring. Available locally in Ortho Rose Dust.

Crab Grass Control. Milton Carleton, research director for Vaughan's Garden Center in Chicago, says Perdue and other research centers have found calcium arsenate gives 95% to 100% control of crab grass for a year. Several forms of calcium arsenate are on the market. It must be applied at least by germination time—end of May first part of June here in the Rocky Mountain region—or earlier. Still the best post-emergent control of mature crab grass is Sodar, or Super-Sodar. Do not, however, use either of them on a new lawn. That also goes for Chlordane when used to control crab grass.

The gardening season has begun and we can't repeat the following warning too often: **ALWAYS READ AND FOLLOW INSTRUCTIONS CAREFULLY WHEN APPLYING ANY FUNGICIDE OR INSECTICIDE. KEEP THEM AWAY FROM CHILDREN AND PETS. DO NOT USE WEED KILLER APPLICATORS FOR PLANT OR INSECT SPRAYS.**

A new *mulch* made of ground up hearts of top quality hybrid corn cobs (so the literature says) is on the market. It is put out by Cargill which claims the mulch absorbs a full gallon more water per cubic foot than ordinary peatmoss.

Incidentally, we welcome and appreciate readers letting us know what results they get from new products tried on our recommendation here and how they like any new garden gadgets they might buy from reading about them in this column.

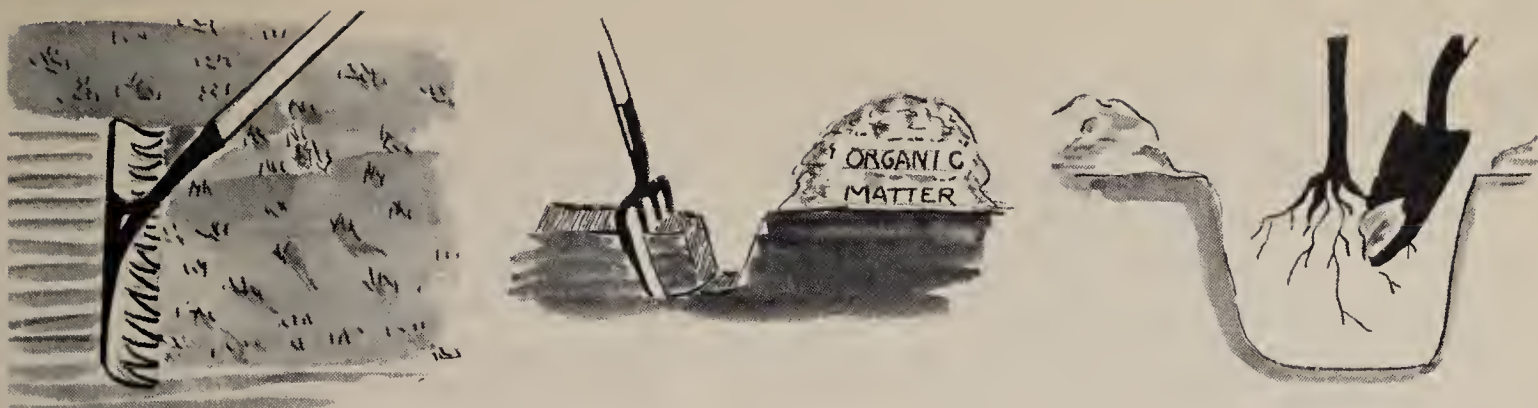


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Seasonal Suggestions

"Now 'tis spring, and weeds are shallow rooted;
Suffer them now, and they'll o'vergrow the garden,
And choke the herbs for want of husbandry."

That's April to a "T!" The fury of winter has waned, and a new colorful season is at hand. Dormant trees unfurl their leaves again amid the sparkling blooms of fall planted bulbs. This change suggests many garden activities.

Traditionally, April is a month for planting. In 1872, J. Sterling Morton persuaded the Governor of Nebraska to proclaim the first Arbor Day. Other states, including Colorado in 1885, followed suit so that today most of the states and many countries throughout the world celebrate an Arbor Day. Colorado Arbor Day falls on the third Friday of April—the 17th this year. Happily you don't have to do all your planting on just this one day. If the weather permits, you can make every day Arbor Day.

It also pays to plant the best in your garden. Remember, if you don't know your merchandise, know your merchant. Patronize local, established nurseries, and garden shops. They adhere to quality standards set up by the American Nurserymen's Association and can give you sound, practical advice on local planting problems.

Here are a few pointers for successful planting:

1. Dig a large enough hole to accommodate the root system of a plant without crowding.
2. Check drainage. Before you actually plant a tree or shrub fill the hole with water. If it drains away in a few hours, there is nothing to worry about, but if it takes all day, the drainage is poor and the location should be changed or the problem corrected. The latter can sometimes be done by drilling down several feet below the planting site with a post hole auger and filling this cone with coarse gravel.
3. Whether your soil is heavy clay or sand, its structure will be improved by adding peat moss to the back fill. Use at least one-third moss by volume. Then water in well.
4. For most soils, a good thorough soaking every two weeks until plants are established is essential. However, it's a good idea to dig down occasionally to check for moisture and adjust the watering schedule accordingly. If it's moist a few inches down, don't water.

LAWNS

Contrary to the advice we have been giving for years, there are now indications that the heavy mat or thatch built up by leaving all the the grass clip-

pings on may provide an excellent medium for certain lawn diseases. So, until we have more facts about the fungus outbreak of last summer, rake your lawn heavily to remove this mat and catch the grass clippings every other mowing.

April 15 is early enough for the first application of fertilizer. Use a complete one—that is, one that contains nitrogen, phosphorous, and potash with a high percentage of nitrogen. A good analysis is 10-6-4 or 16-16-8. These commercial fertilizers can best be applied with a mechanical spreader when the lawn is dry. Be sure to water them in well afterwards, however, to prevent burning.

CLEAN UP

Cut off the dead tops of perennials and clean up other accumulated debris in your flower and shrub borders. Trim out and repair storm damaged shrubs. For roses, however, our rose expert Clyde Learned, advises us to wait until the first or second week in May before unhilling and pruning them. But flower beds can be prepared now. Spade them deeply and incorporate good amounts of well rotted manure or peat moss.

TREES

This is your last chance to apply dormant sprays for the control of some serious scale insects. Use dormant oil on elms and deciduous shrubs and lime sulphur on evergreens. If you have large trees or many evergreens, it's best to call in a professional arborist to do your spraying. If your trees have been injured by wind and snow this winter, now is a good time to have them repaired.

Take time out for a Sunday drive around town this month. There should be good displays of spring bulbs and early flowering trees for you to see and enjoy.—PAT.

Let no rash hand invade these sacred
bowers,
Irreverent pluck the fruit, or touch the
flowers;
Fragrance and beauty here their
charms combine,
And e'en Hesperia's garden yields to
mine;
For tho' no golden apples glitter round,
A dragon yet more furious guards the
ground.

—Anonymous

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The Green Thumb

The Magazine for Rocky Mountain Gardeners



OUR GARDEN
LILACS

Page 114

PROPAGATION
BY DIVISION

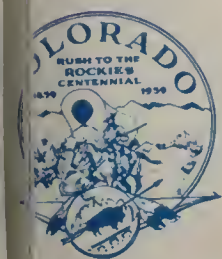
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BEDS

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FOR ROSES

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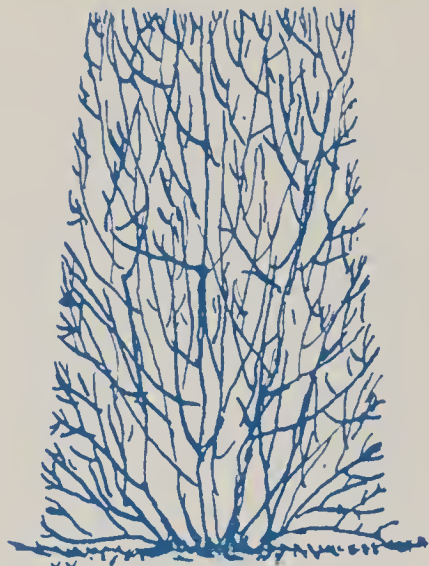


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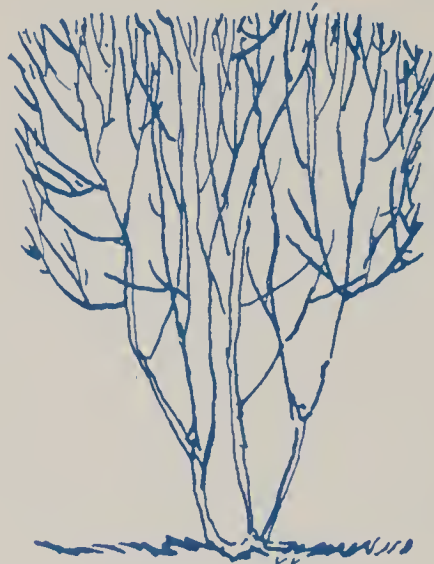
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Vol. 16

No. 4

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The Green Thumb

Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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The Colorado Forestry and Horticulture Association

A non-profit, privately financed Association

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909 York St.

Denver 6, Colorado

MEMO

Calendar of Events

"Fun with Flowers" — A lecture and demonstration is followed by the making of arrangements. Each person brings containers, mechanics, and material. The workshops are open to everyone. Due to popular demand the workshops will be held each month at the following times and places:

Workshop No. 2 — Lakeside Denver Dry Goods, 44th & Harlan, Denver, First Friday of each month, 10:00 a.m.

Workshop No. 3 — County Welfare Bldg., north of Littleton Court House, Littleton. Third Wednesday, 10:00 a.m.

A Local Mushroom Society is now being formed for field trips, study, cookery, etc. Anyone interested please call Hale F. Clark, RAce 2-0076, evenings.

Floral Art Course: Opportunity School. Every Thursday 9 a.m.-11:30 a.m., 1 p.m.-3:30 p.m., 6:30 p.m.-9:15 p.m. There is no charge except for materials.

The Green Thumb Program — Every Saturday morning on KLZ at 10:15 a.m.

May 14—Denver Orchid Society meets the second Thursday of every month at 7:45 p.m., Arneill Medical Center, 1765 Sherman. Anyone interested in orchids call Mr. Daggett, president. FR 7-3736.

FLOWER SHOWS

Home Garden Club of Denver, May 30 and 31. Denver U.S. National Bank.

Denver Civic Garden Club, May 14, Botanic Gardens' House.

Clifton Garden Club, May 26, Clifton Christian Church, Clifton, Colo.

Forget-Me-Not and Johnstown Home and Garden Club combined show, June 9, Elementary School Bldg., Johnstown, Colo.

University Park Garden Club, June 10, Welshire Presbyterian Church, S. Colorado Blvd., Denver, Colo.

Suburban Garden Club, June 11, St. Paul's Parish House, Lakewood, Colo.

B.J.'s of Hoffman Heights, June 24, St. Pius the Tenth Church, Aurora, Colo.

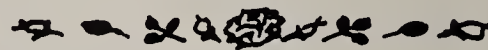


BOTANIC GARDENS' HOUSE MEETINGS

May 14—Rose Society, 7:00 p.m.



June 2—Mt. View Garden Club, 1:00-4:00 p.m.



June 3 — Back Acres Garden Club Tour, 10:00 a.m.



June 8—Colo. Federation of Garden Clubs Judges' Council, 10:00 a.m.



June 8—Federation Garden Fair.



Like a sprouting acorn unfolding into a mature oak, the Botanic Gardens project is growing and gaining in stature. From the initial plantings in 1953, it has developed into a many-unit testing ground for plants in the Rocky Mountain area. Today, it contains the following functional units at its City Park Garden: a Pinetum containing 250 varieties of evergreens; a tulip planting of over 4000 of Holland's finest; a Rose Garden containing 4000 roses and representing 175 varieties; a Lilac Lane composed of the best hybrid lilacs for this area; a Rainbow Garden made up of all types and varieties of iris; a flowering crabapple collection with some 40 different trees; a prunus collection with many of the border line varieties of peaches, cherries, and plums. In addition, an alpine unit has been established in the Mt. Goliath area.

Some of these units like the Rose Garden have been providing valuable information to the gardening public in this area for the past 5 years. Unlike a private garden or park, records are kept from year to year on each individual plant. It is therefore conceivable with records of this type that in a few years, when more plants have been grown and tested, that the Botanical Gardens will supply you with a list of fool-proof plants for your garden. In addition, the gardens are proving grounds for fertilizers, insecticides, fungicides, and other cultural practices necessary in plant care.

This phenomenal growth of the gardens has been through the cooperative

efforts of many individuals, commercial plantsmen, plant societies, garden clubs, and the City of Denver. Because of this fine spirit of cooperation, construction of a large herbaceous unit is well under way. (This has been discussed in detail in previous issues of the Green Thumb.) The preliminary grading of Mt. Calvary site is now completed. The fencing is being erected and a sprinkler system installed. Weather permitting, a large planting of annuals will be made the first of June. While this unit will take several years to complete, you will be able to get an idea of its scope when you visit the area this summer.



Robert L. Woerner, past director of Botanic Garden, examining a Sand Cherry.

Our Garden Lilacs

By JOHN C. WISTER

Dr. Wister is a nationally known authority on lilacs and the author of many gardening books, not the least of which are: "Four Seasons in Your Garden," and "Lilac Culture." He has been awarded the Liberty Hyde Bailey medal.

THE Common Lilac, *Syringa vulgaris*, is our most loved garden shrub. It succeeds in all but the warmest sections of this continent and likes particularly the colder areas. It prefers lime soil, but will tolerate acidity. It is so adaptable, and so commonly seen, that it is often taken for granted, and not given the prominent position and the attention it deserves.

GENUS

The genus *Syringa*, which includes over 25 species, is one of some twenty genera belonging to the olive family. Its closest and best known hardy relatives are the ash, forsythia, and privet. The name *syringa* is believed to have come from the Greek *Syrinx* meaning pipe, and is supposed to have referred to the stems of the Mock Orange (*philadelphus*) to which the name *syringa* was first applied.

HISTORY

The history of the common lilac is fascinating. Augerius Gislenius Busbequius, the Austrian ambassador to the Sultan of Turkey, found it growing in gardens in Constantinople. No one knew where it came from, or how many years or centuries it had been grown. Busbequius introduced it to Vienna in 1554. By 1600 it was being grown in Holland and England. It was apparently well known in this country before the American Revolution. Its wild home was not discovered until about 1818 when it was found grow-



ing in the mountains of Hungary and Bulgaria.

In the 19th century, French, Belgian and German nurserymen raised seedlings, and gave names to what, to them, seemed new or desirable colors or forms. Among the first of these men were Audibert, Billiard, Briot, Legeraye, Leroy, Libert-Darimont, Simon-Louis, Spaeth and van Houtte. Records of their varieties are to be found in Mrs. McKelvey's monograph and in "Lilacs for America," the survey of the American Association of Botanical Gardens and Arboretums. Some of the oldest varieties, or at least plants now bearing their names, are grown in the great collections of the Arnold Arboretum, and of Highland Park, Rochester.

Only a handful of them are worthy from today's point of view so fast has

been lilac progress this past 50 or 75 years. Over three quarters of the 100 varieties recommended by the A.A.B. G.A. survey have come from Victor Lemoine and his son Emile, of Nancy, France, who introduced lilac varieties from 1870 to 1940.

In the past quarter century several American and Canadian breeders have made important additions. Among these were John Dunbar of the Rochester Parks; Theodore A. Havemeyer, President of the Horticultural Society of New York; Walter B. Clarke of San Jose, California; Edward J. Gardner of Horicon, Wisconsin; A. M. Brand of Faribault, Minnesota; Miss Isabella Preston of Ottawa, and Dr. F. L. Skinner of Manitoba.

CULTURE AND PROPAGATION

We all know that the culture of lilacs is simple. Plants will survive shade, bad soil and drought, but to have the best flowers they require full sun, good soil and feeding, and yearly pruning after the blooming season. Prune to keep the plants shapely, to keep them within bounds and to encourage the young growth for future years' bloom. Single stem plants are bad risks on account of danger of borer attack. I prefer six to a dozen good stems, and as the plants get older, I cut out two or three of the largest each year. Criss cross growth should also be removed, and the plant should be opened up enough to allow sunlight to reach interior stems.

There are great differences of opinion on the merits of propagation by cuttings, and by grafting. I should like to place before you the plain facts, and let you make up your own minds which method you prefer.

Most nurseries graft on ash or privet, and some graft on lilac seedlings. The process is cheap, the percentage of success very high. Field

growth is fast. Saleable 2-4 foot plants are produced in two or three years. They can be sold profitably at comparatively low prices.

It is claimed that, if planted deep, the cion of the graft makes its own roots in a year or two. That is true in a large percentage. But how deep is deep? And how is the ultimate consumer to know whether the plant he gets is one of the large percentage with own roots, or the small percentage without?

Some nurseries lift the plant at the end of the first or second season and cut off the grafting stock. Then they sell the plants as own root, which they are, in spite of having originally been grafted. But again, how can the ultimate consumer, who is not a plant expert, know whether all the grafting stock has been cut off the individual plant he receives?

If ash or privet stock remains, it may send up suckers which the beginner will not notice and which may eventually kill out the lilac. If lilac stock remains and sends up suckers, the gardener in a few years may have an inferior seedling instead of a fine named variety.

If the grafted plant has not made its own roots in the nursery, it still may in the garden of its new owner. But also it may not. If it does not, after flourishing a few years the plant will sicken and die.

A few nurseries prefer budding to grafting. Apparently it is still cheaper, and the resulting growth quicker. The bud is above ground until the plant is sold, unless the nurseries reset the plant deeply. If this is done, an extra year is required which nullifies the commercial advantage of the quick growth. It seems to me unlikely that a good percentage of budded plants will make own roots after reaching the ultimate consumer.



Left to right: Ludwig Spaeth, Congo, Charles Joly, Crample.

Cuttings are usually made of half ripened wood in June. The old fashioned method, BH, BPT and BCM (Before Hormones, Plastic Tents and Continuous Mist) sometimes produced as high as 90% good rooted plants by autumn *if* the cuttings were taken at *exactly* the right time. If taken only a few days too early or too late, the percentage of success was small. The greatest commercial deterrent of this method, however, is the number of years, three, four, five or more needed to produce a 3-4 foot or 4-5 foot saleable plant. This makes it necessary to get comparatively high prices for the plants.

With modern hormones, plastic tents, continuous mist, etc., good rooting percentages are higher and quicker. There are, however, still certain varieties that do not respond well enough to make the cutting method commercially practical. Furthermore, the slow aftergrowth remains the same, and this makes the resulting plants expensive. Until the gardener is willing to pay up to double for a plant grown from cuttings, few nurseries will be able to afford the method.

The amateur and the small nurseryman can produce plants quickly and cheaply from suckers, but this method does not lend itself to modern mass production. Propagation by seed is easy, and if seed is selected from good varieties some of the resulting plants may have nice flowers. The chances of getting something as good as, or better than, the seed parent is, of course, very small.

DISEASE RESISTANCE AND INSECTS

Lilacs have few important pests. Scale insects are easily controlled by sprays. Lilac borer and Leopard Moth infestation may be discovered by watching for the borer sawdust. Carbon bisulphide or proprietary preparations may be injected into the hole. This is easier than "fishing" with a wire and less damaging than cutting with a knife.

The larger digger wasp is often blamed for girdling stems in summer but apparently the damage is done, not by it, but by the smaller European hornet. Experts advise wiping out the nests, but to find them is like looking for a needle in a haystack. I have

not yet tried the triple-strength Japanese beetle spray containing derris dust that has been recommended.

Damage from fungi and bacteria is occasionally reported, but not often enough to cause any great concern if the plants are well grown. Anything can happen in unsuitable locations. Cutting out and burning affected parts is a good standard practice for most troubles, and easier than a spray program.

VARIETIES AND COLORS

Choosing varieties is a difficult but fascinating task. We have today good guide posts in the A.A.B.G.A. Lilac Surveys of 1941 and 1953, which recommended 100 varieties from the more than 800 listed. Beginners will do well to choose from this recommended list. Those who know lilacs well may prefer varieties that at the time of the Survey were too little known to be fairly judged. In the following notes, all varieties, unless otherwise credited, are from Lemoine. His interest in history is seen in his choice of names.

Select to secure a long season of bloom and a wide range of color. For early bloom begin with the Early Hybrid section. This was originated by Lemoine who made crosses between the common lilac and the Chinese *Syringa oblata giraldi*. Sent out first in 1911, the best known varieties are 'Catinat,' 'Lamartine,' 'Louvois' and 'Montesquieu.'

In 1936 Skinner introduced a new and even more important set of hybrids. He used, instead of *Syringa oblata giraldi*, the broader, flat-topped and not so tall Korean *Syringa oblata dilatata*. The Skinner hybrids retain those desirable characteristics. The best-known varieties are 'Assessippi' and 'Pocahontas.'

Still more recently, Clarke has introduced a *giraldi* set, the best of which probably is the pink 'Esther Staley.'

In planting it is well to use more whites than other 'colors' to brighten up the garden. The deep colors should be near the pale ones, and the pinks near the blues for contrast.

'Vestale' and 'Mont Blanc' have long been the two outstanding single whites. The best known double white is 'Ellen Willmott.' A recent addition is 'Alice Harding.'

In violet shades 'Cavour,' 'Demirebel' are single; and 'Marechal Lannes' and 'Henri Robert' are double.

In the bluish tints, 'Decaisne,' 'Maurice Barres,' and 'Firmament' are single, and 'Olivier de Serres' and 'President Grevy,' are double. The bluest of all is 'President Lincoln,' raised by Dunbar.

Lemoine named his first introduction in 1870 Jacques Callot. This is still one of the finest of the color of the common lilac. In lilac-colored doubles, 'Henri Martin' and the late flowering 'Victor Lemoine,' are outstanding.

We don't know who raised the oldest and palest pink variety 'Macrostachya' but the pinkest pink, 'Lucie Baltet' came from one of the oldest of French nurseries, Baltet Freres of Troyes.

One of Lemoine's first double pinks was 'Belle de Nancy.' Later pinks were 'Mme. Antoine Buchner' and 'Katherine Havemeyer.'

There are many magnificent lilacs in the magenta shades. Francisque Morel, a landscape architect and nurseryman of Lyons, named his best seedling 'Mme. F. Morel' for his wife. Among Lemoine varieties 'Reaumur' is one of the most reliable for yearly bloom and 'Paul Thirion' is particular-

ly famous for its red buds. 'Capitaine Ballet' is the most reliable bloomer we have in the Swarthmore Collection. It never seems to take a year off.

Fine single purple varieties are legion. The best known, perhaps, is 'Ludwig Spaeth' (originally 'Andenken and Ludwig Spaeth,' and later translated into French as 'Souvenir de Ludwig Spaeth'). Lemoine raised many fine purples. One not as well known as it should be is 'Toussaint L'Ouverture.' Havemeyer introduced 'Mrs. W. E. Marshall' a rather small flowering but intense red purple. We lack good dark doubles.

NOVELTY LILACS

These are but a few of the hundred recommended sorts. I would like to add a few comments about novelties which are not yet widely known or tested but which look very promising.

In single white there is Lemoine's 'Fraicheur' and Dunbar's 'Henry Clay.' Just off white is 'Primrose,' a sport from 'Marie Legraye' at Jan Spek's nursery in Boskoop. In Holland and in England it is really yellow. What it will be under our hotter sun remains to be seen. Lemoine's 'Crepuscule' (which means 'Twilight') is a most promising blue.

Since Havemeyer's death in the 1930's a number of his seedlings from the variety 'Mme. F. Morel' have filtered into the market, though apparently never formally introduced by any particular nursery. There are certainly four "greats" among these. 'Charm,' year after year has been proclaimed the finest of all lilacs at the Ewing Park lilac Arboretum in Des Moines. 'Glory,' while admittedly a little shy blooming, has probably the largest flower. The spikes are so heavy they often hang down. 'Night' is the darkest and the latest blooming variety we have, and 'Priscilla,' which is much like 'Glory,' is very free blooming.

The variety raised by, and named for, the late Edward J. Gardner has been a sensationally fine pink in the first few years of its trial at Rochester. It probably belongs with the early hybrids.

Three promising purples raised by A. M. Brand are the ones which he named for himself and then the ones he named 'Col. Wm. R. Plum' and 'Margaret Rice Gould.'

I have still another favorite after more than ten years of trial. It was raised by Dr. Casper Nelson, a Dakota medical professor, and has not yet been distributed. Much like 'Reaumur'

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in flower, its distinctive feature is its compact symmetrical growth, a quality much to be desired and often sadly lacking in our finest lilacs. It bears the name 'Diane' in honor of the originator's granddaughter.

I wish to conclude with a plea for a new generation of young lilac breeders to carry on the work of Lemoine and the other breeders mentioned. No matter how fine our finest varieties are, there is still not only room for improvement, but need of it. We need more compact and shapely plants. Too many present day-varieties either sprawl or get too tall and ungainly unless constantly and severely pruned. We need also comparatively dwarf varieties for today's small houses and gardens.

We need plants more resistant to mildew and other fungi or bacteria. We need more consistent every year bloom. Some present day varieties seem to give prolific bloom only every other year or even only every third or fourth year.

I don't put too much importance on flower size and am content that some varieties should have small or smallish spikes and flowers. But many gardeners will want still larger flowers. I want clearer colors, bluer blues, particularly pinker pinks. Perhaps we can get even more brilliant red purples and deeper blue-black-purples. We don't want the colors to fade in hot sun as quickly as some now do.

We need a longer season of bloom, this can be accomplished by greater flower substance so that each spike stays in good condition longer in spite of hot sun or sudden heavy rains, or by the production of varieties that open earlier than our now earliest kinds and of varieties that keep in good condition later than our now latest ones.

In addition to all these desired qualities, the fragrance should be strong

and finally, the varieties must be easy of propagation. If they are not, our modern mass-producing nurseries will pass them by in favor of poorer sorts that are easier to handle.

These requirements are many. The qualities will not be easy to achieve. Certainly they will not be easy to combine. Breeding will be a long job, five to ten years or more between generations. That, however, is no longer than the time required in breeding daffodils, peonies, and rhododendrons. Daffodils and peonies require little space. Much can be done in the small back yard. Lilacs will require more space than daffodils and peonies but not more than rhododendrons. Let it be noted that there are in this country today some dozens of rhododendron breeders, many of them amateurs with small gardens. It is clear that the known requirements for lilac breeding need not stop young or enthusiastic breeders.

For the amateur with the small garden, space requirements may seem the worst stumbling block. To make the crosses and grow the seedlings for two or three years, however, requires little room. After that, cannot the good offices of the American Horticultural Council be brought into play by putting the breeders in touch with sympathetic nurserymen or arbore-tums, parks, state experiment stations, etc., which have ample space? Could not some of these line out, even a foot apart, a hundred or a thousand seedlings a year and grow them on for ten years or so while they are being judged and the few outstanding ones selected? I do not think the cost would be prohibitive.

I ask the AHC, the A.A.B.G.A., the Colorado Forestry and Horticulture Association, and other horticultural societies, to do what they can to encourage such cooperative tests of

plants that the amateur breeder cannot, because of the small space in his garden bring on to maturity. Let us do what we can to encourage lilac growing and lilac breeding.

Addenda

Lilac varieties become more interesting when the significance of their names is understood. Here are notes on some of the varieties mentioned.

ALICE HARDING. For Mrs. Edward Harding of Plainfield, N. J., who died in 1938. She was an amateur gardener specializing in peonies and lilacs and the donor of prizes for new French varieties.

CATINAT. Nicholas de Catinat, 1637-1712. Marshal under Louis XIV.

CAVOUR. Camille Benso, Comte de Cavour. Italian statesman.

CAPITAINE BALTET. Capitaine Lucien Baltet, nurseryman of Troyes, killed in action in 1918.

COL. WILLIAM R. PLUM. Of Lombard, Ill., who left his garden to his town to be kept as a lilac park.

DECAISNE. Joseph L. Decaisne, 1807-1882. Belgian botanist and horticulturist long stationed at Paris Museum of Natural History.

DE MIRIBEL. 1831-1893. French Army general.

ELLEN WILLMOTT. 1866-1934. Great English amateur gardener and author.

ESTHER STALEY. Miss Esther Staley of Riverbank, Calif., pioneer grower of rhododendrons and azaleas.

HENRI MARTIN. Bon Louis Henri Martin, 1812-1883. French historian.

HENRI ROBERT. A prominent Paris lawyer and amateur gardener.

JACQUES CALLOT. 1592-1635. Distinguished painter and etcher of Nancy.

KATHARINE HAVEMEYER. Wife of Theodore A. Havemeyer, president of the Horticultural Society of New York and America's greatest lilac grower in the first quarter of this century.

LAMARTINE. Alphonse Marie Louis Lamartine, 1790-1860. French poet.

LOUVOIS. Francois Michell de Tellur, Marquis de Louvois, 1641-1691. Minister of War under Louis XIV.

LUCIE BALTET. Named by the originator, Charles Baltet, French nurseryman of Troyes, for his oldest daughter.

LUDWIG SPAETH. Descendant of the founder of the Spaeth Nursery in Berlin.

MARECHAL LANNES. Marechal Jean Lannes, Duc de Montebello, 1769-1809. Rose from stable boy to marshal of France.

MARGARET RICE GOULD. Wife of president of Carleton College, Faribault, Minn.

MAURICE BARRES. 1862-1923. Famous French man of letters.

MME. ANTOINE BUCHNER. Wife of Munich nurseryman whose father, Michel Buchner, 1843-1912, had served his apprenticeship with Lemoine.

MME. F. MOREL. Wife of landscape architect and nurseryman of Lyons, who raised the variety.

MONTESQUIEU. Charles de Secondat, Baron de Montesquieu, 1689-1753. Man of affairs.

MRS. W. E. MARSHALL. Named by Havemeyer for the wife of the New York seedsman and lily specialist.

OLIVIER DE SERRES. 1539-1628. French agronomist.

PAUL THIRION. 1873-1928. Horticulturist, Director of Parks, Nancy, and secretary of the Societe Nationale d'Horticulture de France.

PRESIDENT GREVY. Francois Paul Jules Grevy, 1807-1891. President of France, 1879-1887.

REAUMUR. Rene Antoine Ferchault de Reaumur, 1683-1757. Great French physicist and naturalist and inventor of the Reaumur thermometer.

TOUSSAINT L'OUVERTURE. Pierre Dominique Toussaint L'Ouverture, 1743-1803. Haitian Negro general and liberator.

VICTOR LEMOINE. 1823-1911. Served apprenticeship in the famous nurseries of Joseph Napoleon Bauman, Louis van Houtte and Auguste Miellez. Started his nursery in Nancy, 1870.

PROPAGATION BY DIVISION

By BILL LUCKING
Superintendent of City Nursery

This is the Fourth and Last Article in the Series on Plant Propagation
as told to The Green Thumb Staff

PERENNIALS, "old reliables" in any garden because they come up year after year from the same root stock and require a minimum of care, are easily increased by division. And this is a necessary, periodic chore if they are to be kept vigorous.

Divisions can be made almost any time during the growing season, but a good rule of thumb is to divide fall-flowering plants in spring and spring-flowering plants in fall.

HOW TO DIVIDE

To begin with, divide only healthy plants. Those that are really old and have lost their vigor are not particularly good subjects. Perennials which separate easily are: shasta daisies, hemerocallis, pyrethrums, phlox, chrysanthemums, campanulas, asters, and lilies-of-the-valley. Dig these with a fork and gently pull them apart. Always make sure the soil is moist for this operation, otherwise there will be too much root damage.

More difficult of division are woody-stemmed plants such as fall asters and certain varieties of phlox. These must have their stems split down their entire length and through the roots in order to be divided.

When dividing anything trim off all dried leaves and decayed matter and if the roots are exceptionally long, trim them back a bit. Then divide the clump by cutting off a section at a time with a sharp knife. Peonies are perhaps the trickiest. Dig them in the fall and dig deep enough to get the whole root system. If the plant isn't too old, several new ones can be made from it.



Iris, an easy perennial to divide.

Shake off as much soil from the roots as possible, then rinse them with water. Again, use a sharp knife when cutting the plant apart. Each section should have three to four good roots (which look almost like tubers) and two to three good eyes (or buds). If the roots are quite long, they can be cut back some.

OFF-SHOOTS

New plants can also be propagated by off-shoots which are new shoots that come up from the roots of the old plant. Lilacs have lots of these side shoots — especially when they are planted in good soil. If the whole bush is not going to be dug up for division, cut off new shoots with a sharp spade by digging down between the parent shrub and the side-shoot. Other plants which lend themselves to this type of propagation are: snowberry, spirea,



1) Digging clump of peonies.

2) Dirt and decayed matter is cleaned off.

3) Sharp knife is used to cut peony root in sections.

4) Divided peony with buds on each section.

5) Roots are cleaned up ready to be planted.





6) Overgrown shasta daisy clump.



7) Divided clump of shasta daisies.

8) Individual fall aster with stem split and ready for replanting.



9) Lilac off shoots ready to be separated.

10) Lilacs after division.



sorbaria, mahonia, and potentilla (cinquefoil).

LAYERING, GRAFTING AND BUDDING

Of the three, the last two can be dispensed with quickly, for grafting and budding in this part of the country should be left to experts who have not only the knowledge, but the proper facilities. Rocky Mountain climate is too dry for amateurs to try these tricky processes.

Layering, however, is relatively simple. Simply bend a branch or twig

down to the ground and cover the base of it with soil kept uniformly moist. It should be left attached, for at least a year, to the parent to develop a good root system before it is severed into a separate plant. Easy ones to experiment with are dogwood (*not* the flowering variety), forsythia, honeysuckle, grape, and clematis.

In conclusion, propagation by any of the methods described in this series of four articles can be an interesting, satisfying hobby. All you need are two "P's" and a "K"—patience, practice, and knowledge. Good luck!

GOT THE BLUES? WANT TO CRUISE? Spring Flower Show Offers World Tour

An invitation to travel "Around the World on a Flower Cruise" is issued Colorado residents and visitors when Home Garden Club of Denver holds its annual spring flower show May 30 and 31 at the Denver U. S. National Bank.

Flower arrangements will depict visits to the British Isles, Western Europe, Africa, countries of the Mediterranean and Far East, according to Mrs. Raymond A. Yaggy, club president. A visit to Sweden and Norway will be represented with floral arrangements in crystal containers; India, with arrangements in brass or brass accessories; Hawaii, with exotic materials; France, arrangements using iris; and Austria, a composition with musical accessory.

Peonies, iris, and perennials in season will be exhibited in the horticulture display.

Scheduled to depart from New York harbor and return through San Francisco's Golden Gate, the cruise will be presented 12 noon to 5 p.m. both Saturday and Sunday. Admission is free.



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DESIGN IN FLOWER BEDS

M. WALTER PESMAN

ASK THE next ten people you meet what they think is the most important part of a garden, and you'll get "flowers" from at least nine of them. The answer may be modified a little if the ten happen to be experienced garden owners — or worse — landscape architects. They have come to weigh others values, too.

Flowers have not always been the essence of a garden. Italian gardens place emphasis on water, terraces, trees; Japanese gardeners formerly spent much money on the proper type of rocks; Moorish emirs stressed fragrance, be it from flowers, herbs, trees or shrubs.

A modern book, "Creative Gardens," by James C. Rose, says: "A garden is an experience. It is not flowers or plants of any kind. It is not flagstone, brick, grass or pebbles." Rose claims that this experience comes from the sense of being *within* something, even though still out-of-doors.

Now let us get back to the other nine, the flower commandeers. Flowers do, very definitely, occupy an important place in today's home gardens. How can we use them to the best advantage?

Flower beds and flower borders come to mind immediately: most people want them and most people are afraid of them, right? There is no real need of this fear, as we hope to point out below.

In the meantime, why overlook other possibilities?

Do you remember those small groups of tulips, or annuals, stuck in front of some flowering (or non-flowering) shrubs? They give just a spot of color for a small period, when color

is what we yearn for. Maybe you have seen an Oriental poppy showing off against a background of a newly budded Russianolive; the effect is glorious!

Every fall I am agreeably surprised by a clump of fall crocus (*Colchicum*) next to a doorway. And every spring my heart jumps up at the appearance of the Siberian squills that have established themselves among a shrub group of coralberry, lilacs, and flowering almond. They need no care of any kind!

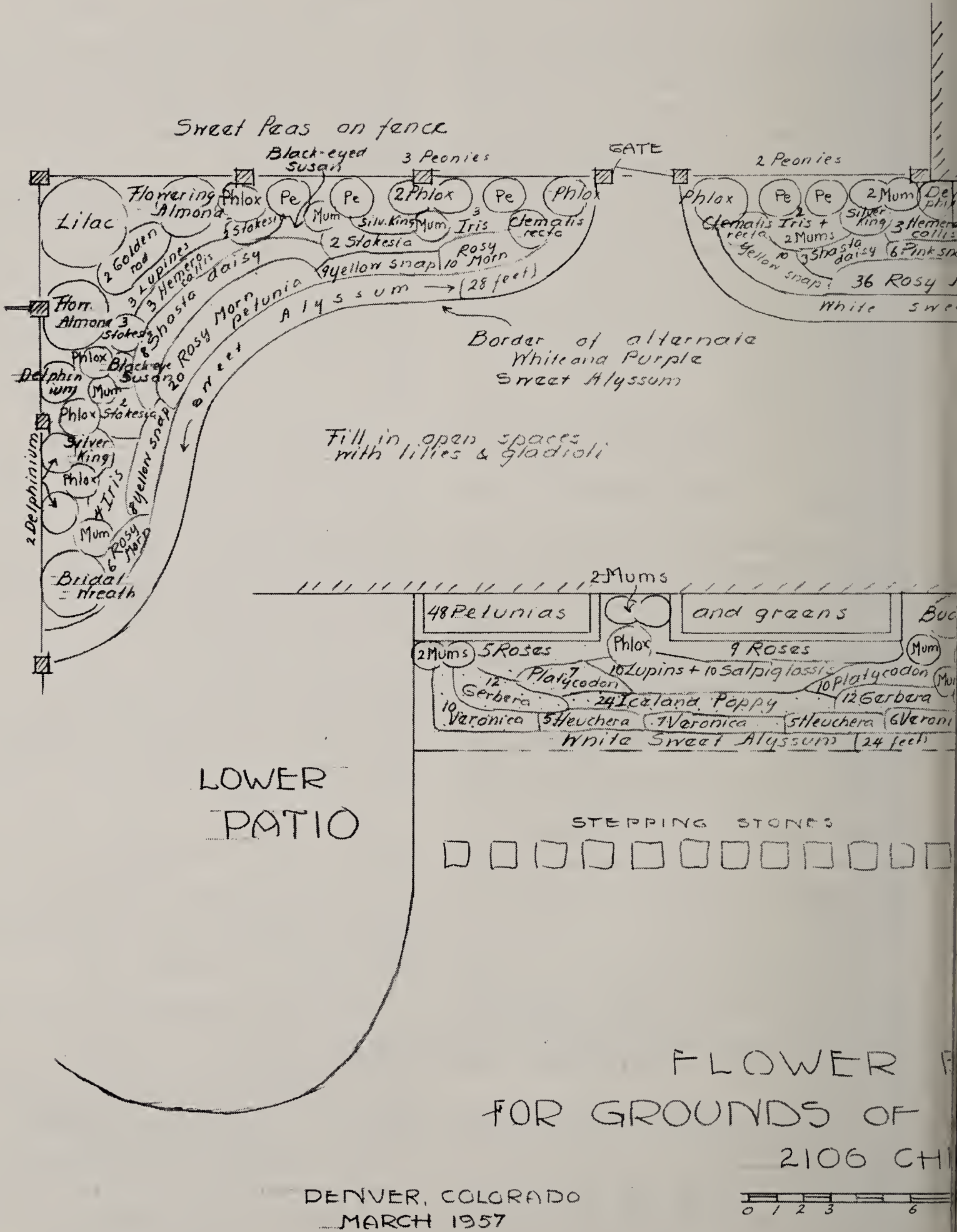
The "flower in the crannied wall" can be more than a beautiful poetic phrase. It is not quite impossible to have crocus in your lawn; only you must add to them every few years, because our lawn mower prevents crocus leaves from storing away new plant food for next spring.

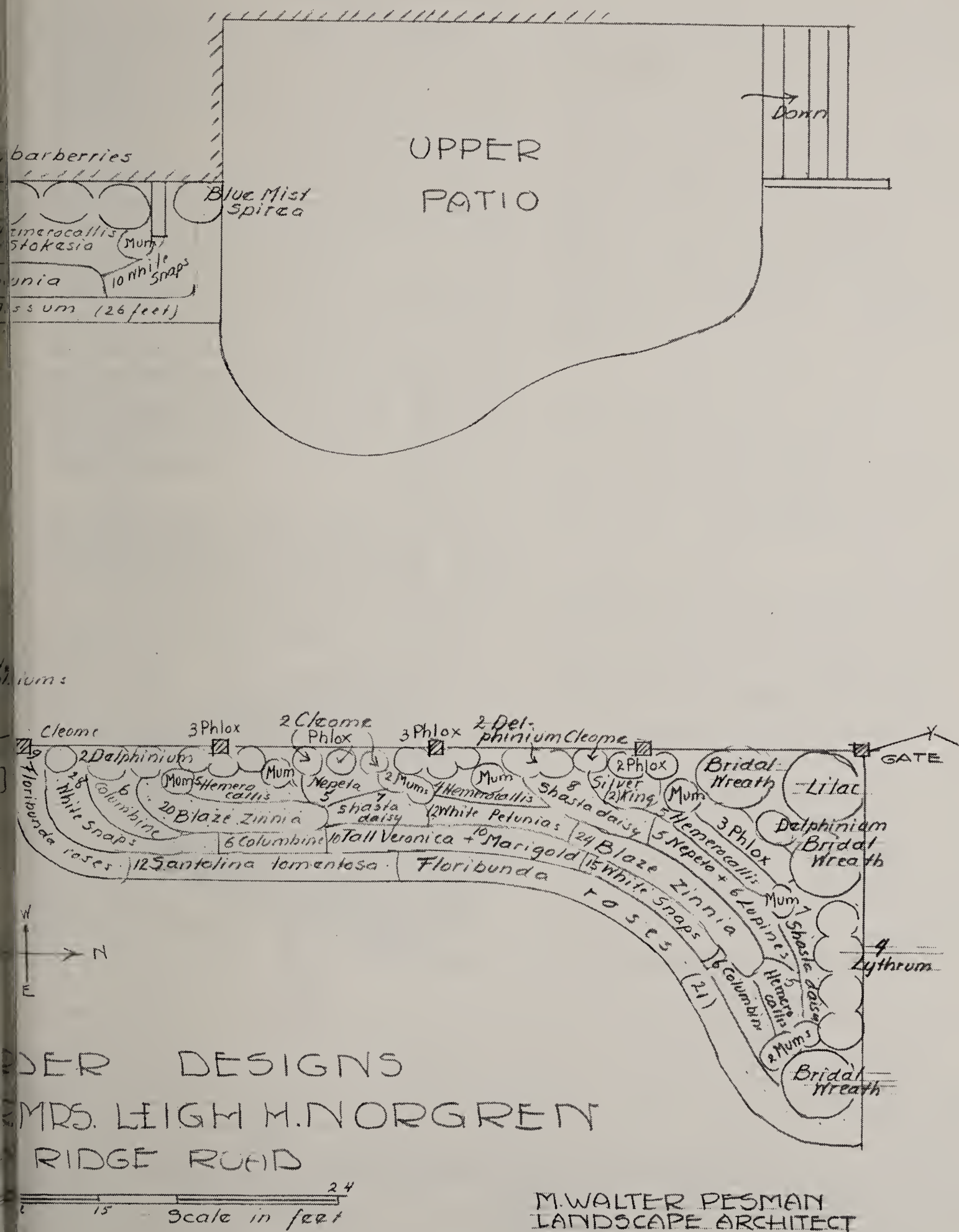
So we might go on. A garden has all kinds of nooks and corners that can take a few bulbs or annuals or perennials without added maintenance. Look for them!

Occasionally we might imitate the flower knots of Williamsburg, or the parterres of Paris, or the peasant gardens of England and Germany, and create something just a bit different from what the Joneses have.

But before tackling the flower problem as a whole, we should do some careful scrutinizing. One important question needs to be faced squarely: what do you want flowers for?

The answer is not simply: because you like them. Why do you? Some of us (or should I say, most of us?) want to have color in the garden at all times. Most of us also want to have enough for cut-flowers in the house,





for church decoration, hospitals, for brightening our living room.

Some of us are "collectors" at heart and we want new types, a large variety of plants, odd novelties, and what not? You must plan for such a hobby, and set aside certain corners for oddities.

Most of us yearn for spring color: Dutch tulips are the secret. On the other hand, we may want restfulness in midsummer: go slow on bright orange, scarlet, strong yellows in July and August. We may be so fond of chrysanthemums that we are willing to set aside a special flower border for them, a sort of fall surprise.

If you want a blue garden, a pink garden, a magenta garden (there is no accounting for taste!), plan for it in the best spot for the effect you want to get. You might even try for a shade garden.

By this time we have limited our problem to quite an extent. We have decided on the location and on the size and shape of our flower border, let us say. (A width of over six feet is not impossible but is difficult.)

Now for the technique. It is well to put down just what plants you expect to use: you have your favorite colors, pet plants, and you know what time you want the main "splurge." Decide which particular plants you want to go "strong" on. Remember that such annuals as petunias and zin-

nias are sure-fire successes, and that most perennials bloom for only a rather short time.

Another point of warning. Tall spring flowers and low fall flowers are quite rare. To overcome the difficulty use spring flowering shrubs and low annuals for autumn.

Let me tell you how I usually go about designing a flower border. Selecting from the list to use I start at the rear, placing such tall plants as delphinium, tall phlox, Silver King artemisia, tritoma, goldenrod, cleome, lythrum, helenium. Delphiniums I use in small groups, well spaced so that they will be seen at most places in the border. A spot of Silver King here and there will tone down any violent color spot.

At the same time I decide on the front edging. A continuous low and narrow border will do much to create restfulness and harmony.

For the middle portion of a flower border we often use the "drift" idea. Drifts are long and rather narrow patches, generally lying somewhat diagonally from the border. By their use we can get a continuity of bloom, and at the same time we don't have big patches of uninteresting plants when they are not in bloom. Such drifts are scattered artistically to create large effects instead of spotty, puttering results.

Herewith we have the first of our *Sermons in Stones*; beware of sham and counterfeits; do not daub with untempered mortar; do not cover bricks with cement, in the hope that your friends will believe them to be rocks; have nothing to do with tricks or with trash. In your character, as in your garden, let all be real—to thine own self be true. Make no pretence of sanctity, social, intellectual superiority. Despise "the tinsel clink of compliment," the accusation of the absent, all words that may do hurt.

—From *Our Gardens* by S. Reynolds Hole, 1899.

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Color harmony is not too difficult in a flower border as long as we use plenty of white and light yellow, and prevent the bright oranges and scarlets from hobnobbing with purples and crimsons. To avoid the latter it may be well to restrict the one color group to one side, the other to the opposite corner. Again, white petunias, white shastas, white zinnias, white anything helps any difficult color combination. Greys are equally good.

Once you have drawn to scale every part of the border (a scale of four feet to the inch is too small, but two feet to the inch generally fills the bill), go over every part and see if you have provided interest for every part of the flowering season.

After the design is satisfactory in general, I find that a number of bulbs scattered through, create the cream on the pudding. They will add color in

odd spots and are safe enough as long as you avoid the "difficult" colors.

Thus you can use lilies, tulips, gladioli, and even such "thin" plants as salpiglossis. Try it, you may be surprised at the effect.

These are merely hints. They may save you from some of the worst mistakes. But there is nothing like a good try-out in your own place. Even a mistake is not too devastating a thing: offending plants can be removed, potted plants taking their place. Good Luck!

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GARDEN



ACCENTS



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The gardens aren't one hundred years old, nor are the owners who are showing them, but this year it is the "Centennial Look and Learn Garden Tour." There is no change in the framework of the popular and accepted garden tours of years past . . . we still need hostesses, ticket sellers, and buyers. The DIFFERENCE is in consolidation of time. One tour . . . ten gardens . . . two days (July 8 and 9). The gardens to be shown are owned by descendents of Denver's early pioneers. Each offers something to you lookers and learners; each will be staffed by a competent expert.

The Board is pleased to announce that Mrs. George Hayden and Miss Sally Davis have volunteered to shoulder the responsibility of the organizational promotion. They will handle all plans and details involving publicity, ticket sales and placement of WILLING WORKERS. Please be a willing worker and call Horticulture House, EAst 2-9656, to volunteer your services to make July 8th and 9th Centennial Look and Learn Tour the best ever.

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CHARLES M. DRAGE,

Extension Horticulturist, Colorado State University

Slime-flux or wetwood disease in trees is common and can be quite unsightly and annoying. The bacterium, *Erwinia nemipressuralis*, can infect elms, poplars, maples, willows and other deciduous trees. The symptoms are the flowing of a slimy, sour-smelling ooze from crotches, cracks or pruning wounds. The fermented sap may vary in color from a light pink to a very dark blackish brown. Sometimes maggots infest the ooze; they are not wood borers or the primary cause of the trouble. The maggots are secondary and may be of some value in helping to clean the wound. Bark and wood surrounding the wound may be killed back and the wound made larger.

Wound treatment and sterilization are often futile. This is because the organism is in the sapwood and heartwood and pressures of 30 to 60 pounds per square inch have built up within the tree. When this happens it is necessary to relieve the high pressure by tapping the trunk.

To tap, bore a 1/2-inch hole a short distance above the soil line and past the center of the trunk. The hole should slope slightly upward and be directly under the wound. A short piece of galvanized pipe having a driving fit is forced a couple of inches into the auger hole. The pipe should be long enough to carry the drip free of the trunk and root crown. If the tapping is successful it is possible to treat and dry up the wound.

Wound treatment consists of removing affected bark and wood tissues. Make the incision so that there is good drainage at the lower end of the wound. Disinfect the wound area with bichloride of mercury (1-500) solution. Paint the wound with Ceresan-M, Cuprocide or Panogen 42 one tablespoonful in one-half pint of linseed oil.

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All Classified Advertising 50 cents a line.

PRUNING TIME FOR ROSES

By CLYDE E. LEARNED

THE main objective of pruning any plant is to remove dead, diseased, or injured wood, and to shape it. Pruning of roses is no different, but *when* to prune is important.

A rough preliminary pruning that cuts out all brushy or dead wood is given in March or early April. At this time the bushes are still hilled up with winter mulch. The greater the depth of this mulch, the more protection for the rose bush and the less dead wood in spring to prune out. In any case, a normal Colorado winter usually decides for you how much and to what height to prune hybrid tea, floribunda, and grandiflora roses.

A major and final pruning isn't done until this month, May. An exact date for this final operation is a touchy subject most of you can appreciate if you have been through one of Colorado's unpredictable springs — last month was a good example. However, my records show it is usually safe to uncover and give the final and major pruning sometime between May 5 and

May 10, although May 15 is the official frost free date for Colorado. At this time canes should be cut back to sound wood, that is, wood which is green in color. Make a clean slanting cut above a good eye or bud. Try to keep the bush as symmetrical as possible by pruning out twiggy, spindly, and candelabra growth. When you are finished, you should have from three to six good canes ranging from 6 to 18 inches in height. The question of pruning heights has long been a bone of contention among rose growers, but keep in mind that good green canes store reserve food which will nourish new growth and provide earlier blooms for spring rose shows.

After pruning, be sure to seal all cuts with an asphalt, or some other sealing compound, for cane borers are destructive and often bore considerable distances—even into the roots. Finger-nail polish is often used effectively as a seal.

Later in the season some additional pruning may be necessary to balance



Rose bush before pruning.



Rose bush after proper pruning.

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the bush and to remove canes which did not grow as expected.

Pruning climbers is entirely different because their blooms are normally on old wood which lasts for two to three years. Each April, I usually cut out about one-third of the canes on my climbers along with a tangle of side shoots.

Unhill hybrid tea rose bushes when you prune in May, being careful to avoid injury to early growth. Some people have good results using a gentle hose spray to wash the soil away from the canes.

In fall when you are covering or hilling-up your roses with earth or

mulch for winter, trim the tops of larger bushes to a height of 30 to 36 inches to prevent wind damage, and tie the tops together loosely to give the canes some support during heavy snows.

Ed. Note: Growing roses for a hobby has not only benefited readers of The Green Thumb but has made Mr. Learned much in demand as a garden club lecturer and rose expert. He tests new varieties for hardiness in this climate and has won many prizes in the Denver Rose Society Show. Reprints of his past articles on rose culture are available on request.



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WHAT'S NEW

California Spray Chemical has introduced a new spray, EXTRAX-COPPER, to their line. Flower lovers will find this new combination insecticide-fungicide good for controlling insects and mildew while the flowers are in bloom. The best points of this product are: no burn to blooms, no residual left on leaves to mar the beauty of the plant.

"RoseMarie" is the latest dwarf Oregon-Pacific aster being introduced this year by Walter Marx Gardens of Boring, Oregon. Hybridized by Professor LeRoy Breithaupt of Oregon State College, "RoseMarie" claims brilliant and vivacious new color in the dwarf aster family. Radiant rose-red flowers bloom in abundance on a semi-dwarf plant 18 inches in height. It flowers from early August through October. It still needs to be tried in the Rocky Mountain region. Does anyone volunteer to test it?

Lord & Burnham is offering a new model greenhouse called SUNLYT JR. It is primarily for beginners and sells for \$275 measuring 6' 6" x 8' 1". It can be made longer by expansion sections. Each extension adds four feet to the length and costs \$115. Amateurs can easily assemble it. Heating equipment is also available for \$65 more.

GARDEN CLUB BRIEFS

By MRS. EDMUND WALLACE

Colorado Federation of Garden Clubs

We are pleased to report the following new garden clubs were welcomed into the Federation at the last state board meeting: The Kibitzers, Denver; Foothills Garden Club, Fort Collins; Southwest Englewood Club, Englewood.

A special journalistic plaque has been awarded the Sunshine Seeders Garden Club by the Littleton Independent weekly newspaper for consistent and comprehensive garden club news reports for 1958. Edith Shakespeare is publicity chairman for the club.

For the first time in the history of Helen Van Pelt Wilson's Flower Arrangement Calendar, the state of Colorado will be represented. This honor goes to Mrs. John Scott of Englewood for her whimsical arrangement called "Man's Musings." Featuring man's favorite color, red, it is a line arrangement two and a half feet tall in a 2 lb. coffee can which is covered with masking tape and sprayed gold.

Dried celosia, zinnias, strawberry popcorn, and sunflower seed heads were the plant materials. A monk wine bottle accessory was decorated to carry out the color scheme. All of which goes to show that original arrangements are worth the effort. Let's hope Colorado will be represented every year in this nationally known calendar.



Photo courtesy Charles Hurd Assoc.

THE BUG-KILLING DAISIES

IN THE shadow of Mt. Kenya—below the Mountains of the Moon, the colorful dress of African workers dots white and yellow fields with rainbow hues.

The natives are lavishing tender care—on acres of daisies!

Halfway around the world, a U. S. farmer stands in his dairy barn, looks at his cows being milked in a place completely free of flies, and can hardly believe that he has won the battle over them with an insecticide that kills the flies but does not contaminate the milk.

Sound like unrelated scenes. The flowers were solving this farmer's problem!

The story really begins about four centuries ago in Persia. Ancient farmers were doubly handicapped. With only limited knowledge and the crudest tools to work with, they had to cope with the age-old problems of soil nutrition, drought—and insects.

History doesn't record how it happened. But through accident or experiment, the Persians made an amazing discovery. Grinding certain "insect flowers" to dust, then "dusting"

their granaries and houses—kept off the insects!

The bug-killing daisies began their role in agriculture!

Through the years, knowledge of the flowers spread from country to country. By the nineteenth century, they were known in Europe, and used principally in homes. Because they grew mostly in what is now Yugoslavia, they were called "Dalmatian Flowers."

Unfortunately, demand was far greater than production. The strange daisies were fragile. They needed a great deal of care and an ideal climate to really flourish. Europe's climate was adequate—but not ideal.

There was another problem, too. No one knew *why* the flowers worked. The only way to use them remained the ancient "grind and spray" method of the Persians.

The situation started to ease a little about 50 years ago when Japan became interested in the daisies. By careful cultivation they were able to grow the flowers on a mass-production basis. America was importing 16 million pounds a year by 1937.

Meanwhile, scientific research had unlocked the daisies' mystery.

Each flower — a member of the chrysanthemum family — contained an amazing biological agent called *pyrethrins*. Completely harmless to warm-blooded life — it was fatal to insects.

Solution of the supply problem was only temporary, however. The world's population was expanding at record rate. Technical advances in agriculture were making more food-growing possible. But the bugs remained and there just wasn't enough pyrethrum — as the flowers were now called — to meet the increased need. Part of the problem was still the method of application. Bugs had to actually come in contact with the powder.

A *permanent* solution began in 1926 when two residents of Kenya Colony, Africa, also began growing the flower as a commercial experiment. They soon found the warm, moist climate and high, five-to-ten-thousand foot altitude was ideal. The flowers began to flourish as nowhere else.

As the supplies increased, science again struggled to get maximum "mileage." After all, there were only 1½ pounds of pure pyrethrins in every hundred pounds of pyrethrum blossoms. Something was needed to increase their effectiveness and reduce their cost.

Something else prompted the search; the promise of many chemical insecticides was rapidly fading. More and more health authorities began to warn of their possible harm to humans. Also: many insects were becoming immune to the chemical killers. The pyrethrins extracted from the flowers avoided both dangers.

Long research finally uncovered the "key." Using *synergists* — or man-made formulations — multiplied the



effectiveness of the pyrethrins with no decrease in safety. Research was also discovering ways to extract the pure, priceless natural product.

For the bug-killing daisies a whole new horizon was opened.

Manufacturers were able to use its combination of potency, speedy action and safety in a countless variety of preparations for every conceivable job. Pyrethrum sprays, emulsions and fogs were developed for use on and around cattle, their feed and milking equipment. Other mixtures could be used against household pests like flies, roaches, and mosquitoes or by food packers, restaurants and hotels to insure sanitary conditions. Farm uses for pyrethrin insecticides — in barns, stables, poultry houses and on food crops — were literally unlimited. It worked against insects ranging from asparagus beetles to sow bugs and cabbage worms.



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Industries concerned with food transportation and storage find it a God-send. Fact is, there are thousands of brand names on the market that contain pyrethrins! The label carries that word in all cases. It is a substance—never a brand name.

Of course, the battle with the bugs is never over and the initial success of pyrethrum means added responsibility for its growers. They are meeting the challenge with all their energy.

Extraction plants operating in the heart of Kenya and the Congo promise to revolutionize pyrethrum shipping.

Constant research is disclosing ways to increase the content of pyrethrins in the daisies and to grow a greater number of the flowers per acre.

For the farmer in America, the housewife and the food handler—the bug killing daisies may not be a complete, final solution. But they do afford the best solution to date.

And the next time a farmer anywhere succeeds in his battle against the plague of insects, chances are that he will owe part of his victory to wonderful, ancient daisies cultivated on African plateaus—beneath the Mountains of the Moon!

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LANDSCAPING ARIZONA HOMES is the title of a delightful brochure published by the University of Arizona. It is written by Joseph S. Folkner who heads up its Department of Landscape Architecture.

Since he was born and had his early education in Denver, we'd like to take a little credit for this production. Joe had his special landscape training under the well-known Professor Frank A. Waugh of Massachusetts. (Remember Folkner's article in "The Green Thumb" of February '53 on "Green Trees in the Old Town"?)

"Landscaping Arizona Homes" is chuck full of good information, for any region, as far as that is concerned. Here are some of its topics: your neighborhood; your site; your plan; walks, drives and paved areas; climate control and enclosure; selection of plants: container gardening.

Each topic is illustrated by well-chosen and well-composed photographs, and by plans showing simple home garden designs.

This is not just a re-hash of old material. Rather is it a carefully-thought-through treatment of design applied to modern living. Naturally it fits Arizona first of all. But if you substitute in your mind Colorado plant material for the palms, saguaros, myrtles, and oleander shown in the pictures and in the plant list, there is no reason why you can't use "Landscaping Arizona Homes" as source material for landscaping Colorado Homes.

(It is Report 166, published February, 1958 by the Agricultural Experiment Station, Tucson, Ariz.)

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Seasonal Suggestions

*Where hast thou wandered, gentle gale, to find
The perfumes thou dost bring?
By brooks, that through the winding meadows wind,
Or brink of rushy spring?
Or woodside, where, in little companies,
The early wild flowers rise,
Or sheltered lawn, where, mid encircling trees,
May's warmest sunshine lies?*

—BRYANT—*May Evening*

We earnestly hope that some of May's lovely flowers escaped the chilly blasts of April and that as the weather moderates, spring, though somewhat belated, will bring forth a mass of colorful bloom. We know, of course, that delays created by the heavy snows of April mean additional work in the garden this month.

PLANTING

The fore part of May should be devoted to planting bare root trees and shrubs. The earlier these materials are in the ground the better are their chances. Prepare the soil properly. Dig a hole large enough to receive roots without crowding and incorporate peat moss, $\frac{1}{3}$ by volume, to the back fill.

Many perennials such as mums and daisies can be divided and transplanted now. Plant seeds of most annuals and vegetables after the 15th of this month. However, wait till Memorial Day to set out such bedding plants as petunias and geraniums. If you like gladiolus, plant a few of them at weekly intervals for a longer blooming season. The tubers of cannas and dahlias are safe after the 20th of the month. If you want flowers for dried arrangements this fall, don't forget to plant seed for them this month. Strawflowers, bells of Ireland, zinnias, and many others are good for this purpose.

Fall planted bulbs will have bloomed or will bloom this month. It's perfectly all right to cut faded blooms off of tulips, hyacinths, and daffodils, but don't be in a hurry to cut off foliage if you want good strong bulbs for next season. Let the foliage die back naturally. If you think this looks too messy, gather together the leaves of each plant, gently fold them over, and tie them.

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The results are neat little bundles which will eventually dry up, returning their nourishment to the bulb.

Clyde Learned advises us to unhill and prune roses. For specific instructions see page 134. If peonies escaped April's wintry onslaught, they should be staked up to support their large blooms.

Start weed control as soon as possible. In lawn areas, chemicals such as 2, 4-D are the best bet for controlling dandelions and other broad leaved weeds. Such chemicals should be applied on a warm day (70-80 degrees) when the lawn is wet. Hold off watering for 4-5 days after spraying. Use care in applying them—they are non-selective and can kill roses and other flowers if any drifts on to them. In flower beds, cultivation and mulching are the best methods of weed eradication.

Like weeds, insect pests also begin to show themselves. Cut worms are apt to be particularly bad this month. The best control for them is Dieldrin. It is available as a spray or in granular form. Either way it should be applied to the soil of all your cultivated beds this month.

If the weather gets warm, aphid and spider mites are often serious pests on evergreens. Check for them by shaking a branch onto a piece of white paper. Examine it carefully. The aphid are easily seen. However, spider mites are minute specks sometimes noticeable by their movements. A hand lense can pick them up, or brush your hand over the paper. If there are some smears, you have spider mites. Malathion will control both mites and aphid.

Prune shrubs such as lilacs and forsythia immediately after they finish blooming. Hedges and evergreens should be sheared now. All broken branches on trees should also be repaired.

Lilacs, flowering crabs, tulips, and some iris will be in bloom in the Botanical Gardens in City Park. Try to find time to get out and see them in their peak of bloom. There will also be some wild flowers in bloom in the lower mountain elevations in case you get time for a Sunday picnic or drive.

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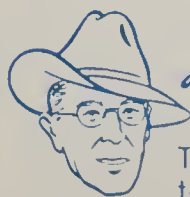
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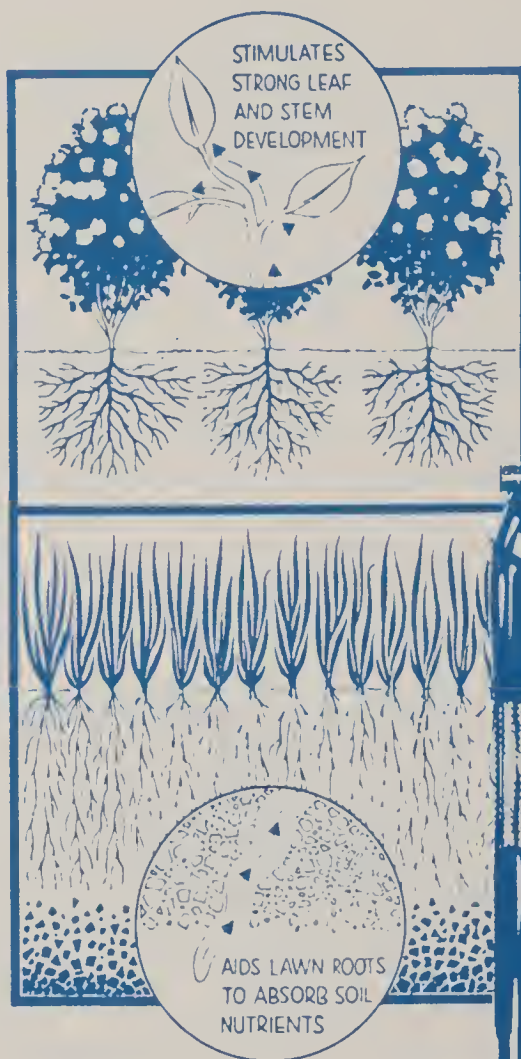


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The Green Thumb

The Magazine for Rocky Mountain Gardeners

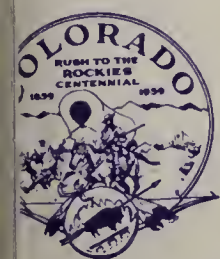


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JUNE

1959

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JUNE

Vol. 16

No. 5

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The Green Thumb

Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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The Colorado Forestry and Horticulture Association

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Members



Calendar of Events

"Fun with Flowers" — A lecture and demonstration is followed by the making of arrangements. Each person brings containers, mechanics, and material. The workshops are open to everyone. Due to popular demand the workshops will be held each month at the following times and places:

Workshop No. 2 — Lakeside Denver Dry Goods, 44th & Harlan, Denver, First Friday of each month, 10:00 a.m.

Workshop No. 3 — County Welfare Bldg., north of Littleton Court House, Littleton. Third Wednesday, 10:00 a.m.

Floral Art Course: Opportunity School. Every Thursday 9 a.m.-11:30 a.m., 1 p.m.-3:30 p.m., 6:30 p.m.-9:15 p.m. There is no charge except for materials.

The Green Thumb Program — Every Saturday morning on KLZ at 10:15 a.m.

BOTANIC GARDENS' HOUSE MEETINGS

June 9—On June 9 at 2 p.m. the Garden Club of Denver will have a lecture open to the public at the Denver Country Club on flower arranging by Mrs. Elizabeth Reynolds, a member of the Garden Club of America. Tea will be served. Tickets are \$2.50, available at the Botanic Gardens House. Please make reservations.

June 10—Organic Garden Club will meet at 8:00 p.m.

June 11—Crestmoor Garden Club—9:30 a.m.

June 11—Denver Rose Society—7:00 p.m.

June 11 — Denver Orchid Society meets the second Thursday of every month at 7:45 p.m., Arneill Medical Center, 1765 Sherman. Anyone interested in orchids call Mr. Daggett, president. FR 7-3736.

June 18—Hillcrest Garden Club will tour house at 10:00 a.m.

June 23—Board meeting of Colorado Federation of Garden Clubs—1:00-5:00 p.m.

July 1—Botany Club, 7:30 p.m.

July 7—Mountain View Garden Club, 1:00-4:00 p.m.

July 8—Centennial Look and Learn Garden Tours. Tickets available at Colorado Forestry & Horticulture Association offices.

July 8—B. J. Garden Club, 1:00-3:30 p.m.

July 8—Organic Garden Club, 8:00 p.m.

July 9—Centennial Look and Learn Garden Tours.

July 9—Denver Rose Society, 7:00 p.m.

FLOWER SHOWS

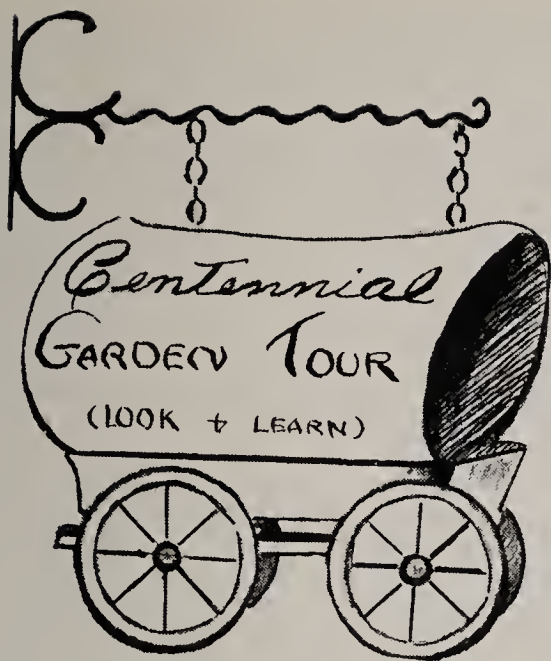
Forget-Me-Not and Johnstown Home and Garden Club combined show, June 9, Elementary School Bldg., Johnstown, Colo.

University Park Garden Club, June 10, Welshire Presbyterian Church, S. Colorado Blvd., Denver, Colo.

Suburban Garden Club, June 11, St. Paul's Parish House, Lakewood, Colo.

B.J.'s of Hoffman Heights, June 24, St. Pius the Tenth Church, Aurora, Colo.

Golden Garden Club, June 27, Masonic Temple, Golden, Colo.



IT is fitting in this Centennial year that the Horticulture Association has moved to new, more luxurious quarters. As we all know anything new is cause for more expense. Therefore this year the Look and Learn Garden tour is "not new, but different"—done on a larger scale to bring in greater revenue.

It is also fitting in this Centennial year that Horticulture Association honor the early Colorado pioneers by displaying the gardens of their descendants. Early Colorado ancestors are not easy to come by, nor are exhibition gardens, but the committee for the Centennial Look and Learn Garden tour has unearthed, with much digging and delving, a representative group which we are sure will interest all of you, not only for the historical background of the owners, but for the present day charm of their gardens.

Let us preview a few of them for you, alphabetically:

Mrs. Sidney Brock, Jr., with a small informal garden at 130 Gaylord Street, is noteworthy in that *her* ancestor is still living. He is her father, Edwin Stebbins Kassler, born in Denver City October 29th, 1866, a pioneer son of a pioneer father.

A new and intimate garden with infinite appeal—perfect to the smallest

detail—belongs to Mrs. Albert Coleman of 461 Humboldt Street. Truly, Mrs. Coleman is a descendant of pioneers. One grandfather arrived in Denver in 1873, a grandmother in 1877, and the other grandfather settled in Wyoming in 1873, coming to Denver in 1880.

Pioneers in gardening innovations are the George Cranmers whose beautiful estate at 200 Cherry Street contains non-indigenous-to-Colorado grapes and peach trees as well as meticulous landscaping. Mr. Cranmer's father drove herds of cattle over the Pecos Trail through New Mexico into Colorado from 1867 until 1874. Mrs. Cranmer is descended from Delos Allen Chappell, an 1873 Colorado settler whose former home was given by his daughter to the Denver Art Museum.

Another double-feature couple is the John Evanses with another palatial estate at 2001 East Alameda Avenue. The original John Evans was appointed by President Lincoln, a per-



Miss Sally Davis and Mrs. George Hayden, co-chairmen of this year's Ticket Committee for the Look and Learn Garden Tours, pose in their Centennial costumes illustrating the theme for 1959.



Checking over lists with Mrs. Hugh Catherwood are Mrs. Tom Buchanan and Mrs. Harry Kelly, two of the workers on the main ticket selling committee. Photo courtesy Betty Baldwin

sonal friend, to the position of Governor of Colorado Territory in 1862. The father of Mrs. Evans was Walter Scott Cheesman who moved to Denver in 1861 to operate a drug store in the same block shared by the Kountze brothers newly established bank.

Charles Kountze, co-founder of the Colorado National Bank, is represented in the Look and Learn Garden tour by his granddaughter, Mrs. Thomas B. Knowles, whose garden at 385 Gilpin Street illustrates the charm of indoor-outdoor living.

Another example of easy accessibility from the house to the garden is at the home of Mr. and Mrs. J. K. Malo. His grandfather, J. K. Mullen, arrived in Denver in 1871 and proceeded to develop the Hungarian Process of milling which gave the first true white flour.

Isaac Van Wormer, grandfather of Mrs. Jere Wilson, was one of our

earliest permanent settlers. He homesteaded a ranch for cattle and horse raising near Running Creek, east of Denver in 1857. Mrs. Wilson's garden at 217 Bellaire Street shows what wonders can be accomplished in a limited space. It is charming, intimate, perfectly executed.

Last but not least on our preview gardens is that of Max Zall, 5401 East 6th Avenue, a truly delightful and different spot with its walls and statuary. Mr. Zall is well represented with ancestors — one of his grandfathers started the Zall Jewelry Company in the old Lidell Hotel at Larimer and 10th Streets; the other, Mr. Kortz, was founder of the Colorado Cooperage Works engaged in manufacturing barrels.

These are but seven of the twelve Centennial gardens to be shown July



Mrs. Matson Holbrook, Mrs. Harry Combs, and Miss Sally Davis (center) admire a door prize donated by Pooh Corner Book Store.

Photo courtesy Betty Baldwin



Three generations of interested workers are represented by Mrs. George Hayden, Mrs. Frost Buchtel (seated), Mrs. William Gregory, and Mrs. Henry Mulvihill. Mrs. Mulvihill is holding one of the twelve door prizes to be given away July 9th. The lawn sprinkler was donated by the George Mayer Hardware Store.

Photo courtesy Betty Baldwin

8th and 9th. The tickets will sell for \$3.50 which will include not only the looking and learning, but a pamphlet with the histories of these pioneers—and a door prize at each garden. You

will be called soon to purchase your ticket and join in the

RUSH TO THE ROCKIES . . . RUSH TO THE AID OF HORTICULTURE ASSOCIATION.



Annual Iris Show, sponsored by the Denver Iris Society, will be held Saturday, June 6, at the Botanic Gardens House, 909 York Street. Open to the public from 12 noon to 5 p.m.

Annual Rose Show, sponsored by the Denver Rose Society, will be held Sunday, June 21, at the Denver U. S. National Bank. Open to the public from 1 p.m. to 8:30 p.m.



“In the culture of flowers there cannot, by their very nature, be anything solitary or exclusive. The wind that blows over the cottage porch sweeps over the grounds of the nobleman, and as the rain descends on the just and on the unjust, so it communicates to all gardens, both rich and poor, an interchange of pleasure and enjoyment.”

—Charles Dickens

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Iris garden of Judge Rogers in Wichita Falls, Texas.

IRIS PUTS ON A NEW FACE

By ANN LONG

FEW perennials can provide as wide and satisfactory a range of uses in landscaping as iris. Numerous varieties and species, different blooming seasons with great diversity of height, shape, color, and environmental requirements, combine to make iris as useful to the beginning gardener with his area yet to be developed as to the experienced gardener who wishes to add to or modify existing effects.

Iris species native to the region are found in almost every country in the northern hemisphere, but over the years greatest attention has been paid the tall bearded species originating along the Adriatic sea and in middle European areas. Of diploid (two sets of chromosomes) constitution, these

iris were small flowered and poorly branched.

Within the last sixty years, tremendous hybridizing achievements have resulted from combining the hardy but small diploids with tetraploid species (four sets of chromosomes) from the Mediterranean region, resulting in the large flowered, well branched, tall bearded iris we know today.

In our Rocky Mountain area iris have proved their hardiness and adaptability. While the majority of iris grown are the tall bearded varieties, much pleasure can be derived from trying some of the lesser known species.

As the March snows melt, tiny bulbous *Iris reticulata* and *Iris histri-*



Dr. and Mrs. P. A. Loomis in the Colorado Springs garden.

oides bloom along with the crocus. They are soon joined by dwarf bearded *Iris pumila* and *chamaeiris* used in borders and in the rock gardens where *Iris cristata* is also a favorite.

The adventuresome gardener may have spectacular single blooms from an oncocyclis such as *Iris susiana* or *Iris sari*, dotted, stippled and veined in a fascinating and pleasing way, revealing their Middle East origin. Oncocyclis are not a sure-fire success, but they have passed along some of their exotic allure in hybrids with the tall bearded that bloom a little earlier than regular tall bearded and are easy to grow. Oyez, Ib-mac, Persian Pattern, and Lady Mohr are typical oncobreds.

Our own native, *Iris missouriensis*, making lovely patches of blue in upland meadows at this same time, may be added to the home garden.

By the end of May the early varieties of the tall bearded iris such as Sass Souvenir, Cherie, Sky Ranger, and Campfire Glow, are blooming. For several weeks, in a favorable season these lovely blossoms in almost every

color and color combination, appear in great profusion. Including generally late blooming varieties, (Vatican Purple, Extravaganza, Envoy, Pale Primrose, and Rose of Picardy) will assure a colorful, long season.

The preference of giant flat-topped, ruffled-flowered Japanese iris for certain definite conditions will test patience and skill but enthusiasts find they are worth the effort. *Iris dichotoma* (Vesper iris) will produce many lovely small blooms in late July and early August.

Planted in clumps in the garden, iris make the focal point of interest before evergreen or flowering shrubs. In more formal beds they accent garden order and harmony. And the memory lingers on in the graceful green foliage after the blooming season is over.

If planted a foot to eighteen inches apart, even the thriftiest iris may be enjoyed for several years before the increased plant growth will necessitate dividing.

For gardeners with a large space to beautify and a rather limited budget to follow, many beautiful iris, available for several years, can be purchased for a small price per rhizome, and will yield wonderful mass color effects in one or two seasons.

For smaller space and slightly larger budget the newly introduced iris will bring breathtaking pleasure. Huge blossoms with gracefully flaring petals, blooms with delicate ruffling, widely color-contrasting beards, self beards, heavy texture and substance resistant to the toll of time, wind, sun, and rain—all these are available with a minimum of effort and experience.

The Rainbow Iris Gardens in the botanical section at City Park in Denver are well worth a visit and demonstrate in a dazzling display the characteristics of these plants. The gardens include dwarf, intermediate, Siberian,



Another view of Judge Rogers' garden, Wichita Falls, Texas.

spuria iris, as well as the tall bearded varieties.

Of special interest is one bed devoted to the introductions of Dr. Philip Loomis of Colorado Springs, an outstanding hybridizer and the originator of Seashell and Morocco Rose, ancestors of the pinks of Elmohr, Spanish

Peaks, Castle Rock, Aspen Glow and many other of the most popular varieties grown today.

There is one lurking danger in all iris growing—that of being caught up in hybridizing—a fascinating, absorbing, and tantalizing preoccupation. Mouth-watering, clear yellows with



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tangerine beards such as Techny Chimes, huge clear pinks as Cloud Cap, rich velvety royal purples (black to irisarians) as Sable Night, intense Colorado sky-blue as Pierre Menard, floriferous pure white New Snow, all results of generations of crossing varieties and species, provide alluring encouragement to try a hand at hybridizing.

Once the crosses are made, seeds gathered and planted, the hybridizer waits in eager and sometimes impatient anticipation for his first bloom in two but more often three years. Such a continuing interest is this that the late Dr. Sidney Mitchell, famed California

hybridizer, once said that no iris hybridizer who had unbloomed seedlings had ever been known to commit suicide.

Whether the unopened blooms are seedlings or a new variety added last fall or the tried and true favorite of other seasons, anticipation is keen and each new iris bud gives promise of future pleasure.

Editor's Note—We urge our readers to visit not only the Rainbow Iris Garden in City Park, Denver, but Long's Gardens in Boulder, Colorado, when they are in their peak of bloom the first week in June. Long's Gardens specialize in tall bearded varieties.

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A view of South Park City with placer tailings from South Platte river in background.

THE GHOST OF A PAST

By LOAY WINIFRED BOGGESS

A pioneer ghost town, stretching, yawning, pulling itself together, amalgamating with some of its brethren in the beautiful valley known as South Park in Colorado—that's South Park City—the somnolent, forgotten past of what is now Fairplay.

Lovingly and with enormous care, choice landmarks from the half-forgotten "rush" towns of Alma, Buckskin Joe, Dudley Flats, Leavick, Montgomery, and Mosquito Pass have joined others to become, not a replica, but a restoration, to live again on Front Street. Furnishings and stock for the buildings have come from as far away as Westcliffe, Denver, and Colorado Springs as well as from citizens of Fairplay and near neighbors.

Officially opened May 15, South Park City will stage a gala welcome in Centennial garb for tourists and vacationing fellow Coloradans the weekend of June 13 and 14. Fun! And all very interesting, but far from gardening and horticulture. Yes, except—and this is

a Green Thumb scoop—for the dream of a garden. Basic to this dream is the ecology of South Park itself, once called Bayou Salado (Salt Marsh) by the Spanish. Here the variables of season, moisture, altitude, and latitude, of soil chemistry and man's unique talents as a seed scatterer compress a bewildering variety of plant species into a relatively small strip of geography, with some surprising "finds." For instance, a few ponderosa and limber pines (usually found at 6,000 to 7,000 feet) among the prevalent aspen and foxtail pine in Four Mile canyon at close to 11,000 feet.

Then, on the moist hillside above the spring at the late Jim Redman's Barco Mine tunnel, in the same canyon area, is an unbelievable array of hybrid paintbrush. Along the seepy roadsides at the foot of easy-going Kenosha Pass the fringed gentian opens its twisted cerulean cup.

In spring the wet meadows of the Park reflect the sky, too, with great

stretches of blue flag (*Iris missouriensis*) and golden banner to reminisce a Van Gogh palette. Shooting star (*Dodecatheon*), purple lousewort, and its delightful cousin, little red elephant, follow in a succession of pink, cerise, magenta, cream, and gold. Underlying it all are the dull greens and browns of mountain hay.

In drier areas red paintbrush daubs scarlet accents through the sage and grama grass. Along the South Platte grow willows and on its sand bars fireweed glows shocking pink. Near the mountains and on the slopes many well known and well loved alpenes bloom in season, among them cranesbill geranium, Solomon's plume, and lovely erigeron and aster. The forthright gold of the senecios is a foil for the blue of harebell and flax.

The basic plant succession of the drier areas of the Park is evident in the grounds of South Park City. With some discouragement of "roadside exotics" (dandelions etc.), the native beardstongue, purple fringe, and fairy trumpet will return to their own. But to have the moisture-loving plants represented, water is a problem. A pipe will send a small constant trickle of water from the top of a small gulch

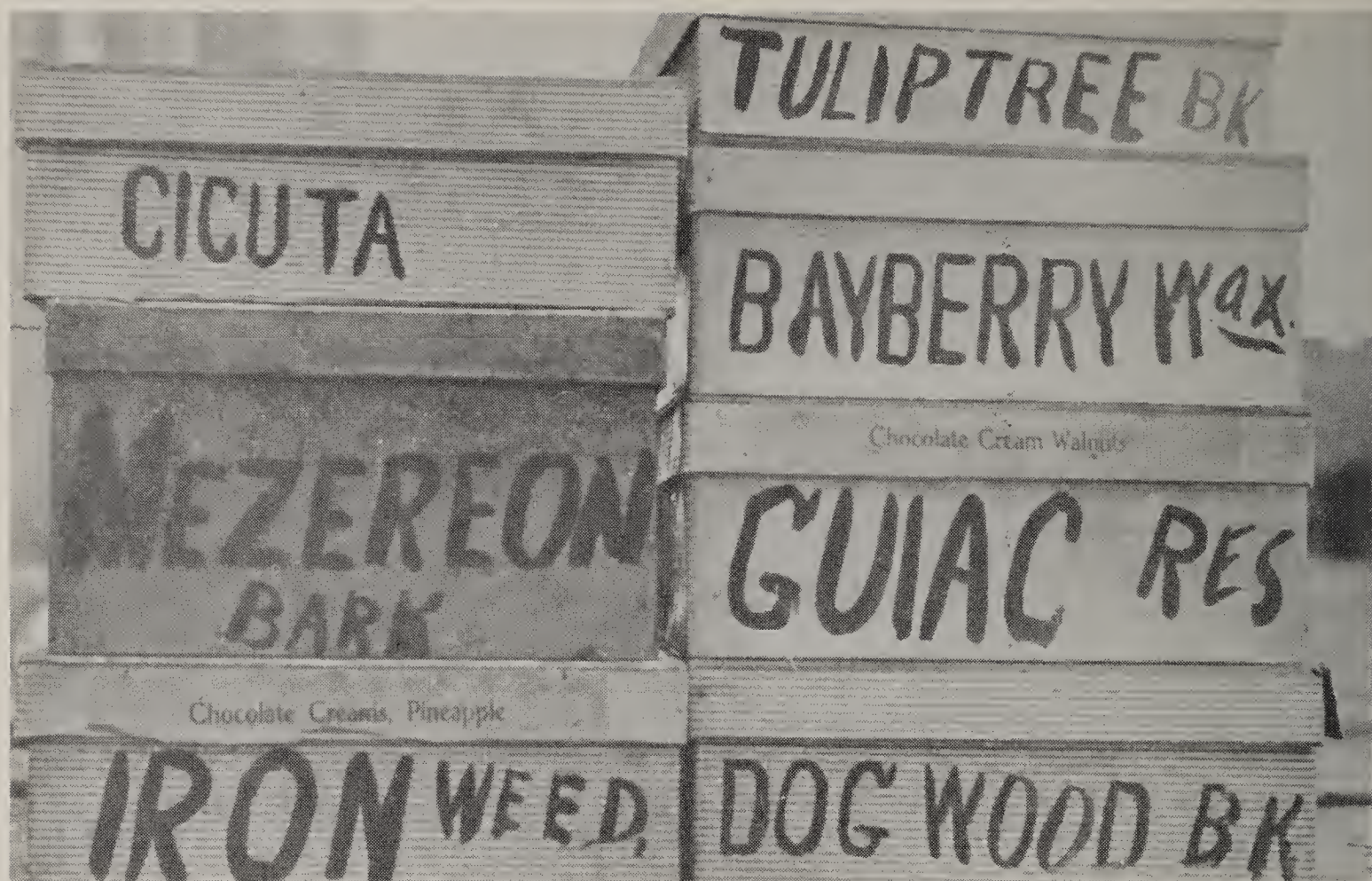
down to the Spanish arrastra on the north side of Front street. Around the edge some large specimens of foxtail pine, Engelmann spruce, aspen, and willow will form a basic design and furnish shelter and shade for the varieties that require it, if know-how and power tools are available soon after this article is written.

Who will help? The Botany Club of Denver and its mentor, Dr. Brunquist, have offered assistance. George and Sue Kelly of Littleton, Colorado have promised to help as soon as their rush season is a little less rushing at their Cottonwood Garden Shop. Robert Woerner (past director off the Botanic Gardens) and Robert Niedrach at the Denver Museum of Natural History have contributed valuable suggestions. This account is a frank bid for help which will be needed to finish the project. Bulldozers, brains, brawn, botanical research, disbursements—anyone?

But more about this colorful community. A variety of buildings, preserved and protected against the ravages of time and vandals, stands behind sturdy boardwalks two blocks up Front Street from the main part of Fairplay. An array of mining equip-



"There are honest, plainly labeled pharmaceuticals in plenty too . . ."



"... bottles, boxes, jars, and drawers filled with an array of plant extracts and herbal preparations."

ment adds to the area's interest and value.

A fascinating place to browse is the Pioneer Drugstore, filled with a treasure trove of patent medicines and sure shot cures for man and beast, many with circulars whose testimonials cause the reader to wonder how penicillin and sulfa, insulin and cortisone, ever got a toehold on this suffering planet. Lung pads, liver pads, stomach pads are all unconditionally guaranteed to absorb the vile and disease-producing humours infesting the frail body of man—and woman.

There are honest, plainly labeled pharmaceuticals in plenty, too. Indeed, one of the most exciting of the botanical plans is that suggested by the bottles, boxes, jars, and drawers filled with a great array of plant extracts and herbal preparations. All the centuries of empirical medicine and herbal folklore lie waiting for any coughdrop Columbus to explore in the brown and spotted labels clinging to a variety of containers.

A newspaper office, the South Park Sentinel, boasts a Washington hand press and old type fonts donated by the International Typographical Union of Colorado Springs. Looking down on these mementoes is the first president himself, crossing the Delaware, in an historical oil copy of the famous painting by Emanuel Lutze, done by one of the famous artist's close friends.

"Rachel's Place," a saloon and gambling establishment, boasts a fine old cherrywood bar, authentic Faro gambling devices, and an oil portrait of a life-size nude, a-la-September Morn, framed in foot-wide plaster and green velvet splendor—outside dimensions nine by six feet (the picture frame, that is!)

The lady, lovingly christened Rachel by her latest sponsors, really had nothing to do with Rachel's Place originally. Her story, of another time, another place, deserves another telling too.

Edifices adding flavor to the old settlement are the transplanted Bank

of Alma, long out of business but retaining its original charter; the Stagecoach Inn from near the top of rugged Mosquito Pass, built of still-sound immense hewn timbers; a blacksmith shop, fully equipped; an old-fashioned general store; and a combination carpenter shop and morgue. On a slab in the morgue, laid out in state, lies Silverheels, silver slippers and all. Silverheels is the dancehall queen immortalized in blank verse by Thomas Hornsby Ferril's Central City boxoffice hit of last summer, "And Perhaps Happiness," but any loyal South Park-er will hotly and immediately point out that this nightingale of the Front Range miners, this Angel of Mercy of Clear Creek (according to Ferril), was and is South Park's own, a Buckskin Joe resident. The beautiful mountain which bears her name is just north of Fairplay.

Silverheels was not only beautiful and merciful. She also has botanical appeal. *Artemisia frigida*, feathery, aromatic sage, which dominates the dry slopes around Fairplay, was a specific for "mountain fever" which struck down the miners in epidemic numbers. Brewed as a tea, it is reported to have supplemented the T.L.C. (tender loving care) she gave them during her nursing rounds. At least, so goes the legend of Silverheels.

A big pink sandstone brewery northwest of the project is now a museum where South Park's curios and keepsakes of a hundred colorful years keep company with mining equipment of great interest. Between the brewery and the street is a smaller structure, also built of native stone, and once the retail outlet for the brewery's products. The old stone saloon now serves as South Park City's office.

On the hill stands an old gallows frame (essential to mining operations, not justice), and beside it, an old prospector's cabin. Another cabin on the

street below faces the Chinese Tong House, meeting place for immigrant Chinese placer miners. China Mary, laundress and good hard working, faithful friend of the Chinese coolies, may be of botanical interest too. There's research to be done there.

Across the street nearby stands Father Dyer's log church. Father Dyer, fiery itinerant Methodist preacher who carried the mail between Fairplay and Leadville on snowshoes over rugged Mosquito Pass, is another frontier citizen important in South Park City's heyday.

Two pioneer homes faced in clapboard round out the project at the present time. One is the home of Col. Frank Mayer, last of the buffalo hunters, Civil War drummer boy, Anglo-Egyptian-Sudanese soldier, teacher, and miner, who lived out the last of his 104 years in Fairplay. Here he painted, wrote, and told interesting tales to other writers of history.

The other house is called the Pioneer Woman's Home and was furnished by the women of Fairplay and the surrounding area. Its old fashioned charm sets the stage for one of the garden units—a pioneer woman's garden, naturally. There is water available in the house, so the scope of this particular project will be dependent only on the generosity with which labor, plants, and materials are donated.

What did a pioneer mountain woman plant in a garden at 10,000 feet elevation 'way back in 1859? There aren't too many clues. Suggestions are needed from others with special knowledge in this field.

A covered wagon offered only limited storage for a few treasured plants and seeds. But lilac and yellow rose somehow kept alive across the barren plains. Onion and garlic sets, a rhubarb "start," a few garden seeds, were brought by some. For a feeling



Front Street showing Rachel's Place.

of home, some favorite flowers must have come along too. Iris, tulips, perhaps delphinium and Iceland poppies which grow everywhere in Fairplay today, along with hopvine—were they brought then? Perhaps pioneer women tamed wildlings such as wild currant, or butter-and-eggs which grow in the gutters of Alma today. But one thing is certain, a frontier wife had to have a green thumb. She could not run to the drugstore or to the doctor for her family's every ache and complaint. She doctored them herself with "yarbs" made into teas, liniments, poultices, and decoctions of infinite variety. Her own imports and the things she found on grassy slopes, in woods, and in bogs represented as formidable a pantry pharmacopoeia as loving hands could assemble.

The second and last installment of this story will tell something of the fascinating lore of the plants and herbs known to pioneer pharmacists and doctors, frontier settlers and Indians—lore as ancient as man, and yet as modern as the intelligent, sophisticated professional woman who sat next to me at a luncheon in April.

A startling fact is the number of medicinal plants growing wild in Colorado, many of them within a short distance of South Park City. Take curly dock, for example. It was used for purifying the liver and blood, treating scurvy, jaundice, pyorrhea, or sores. It was also given as a stomach

tonic, cathartic, remedy for ulcers, or as a green in salads! The "weeds" were as versatile as the pioneers who used them.

Overheard by the staff of the Botanic Gardens House — Hostess showing a tour through the house:

"This is where the herbarium will go." 12-year-old guest: "Oh, is that where you store dead people!"

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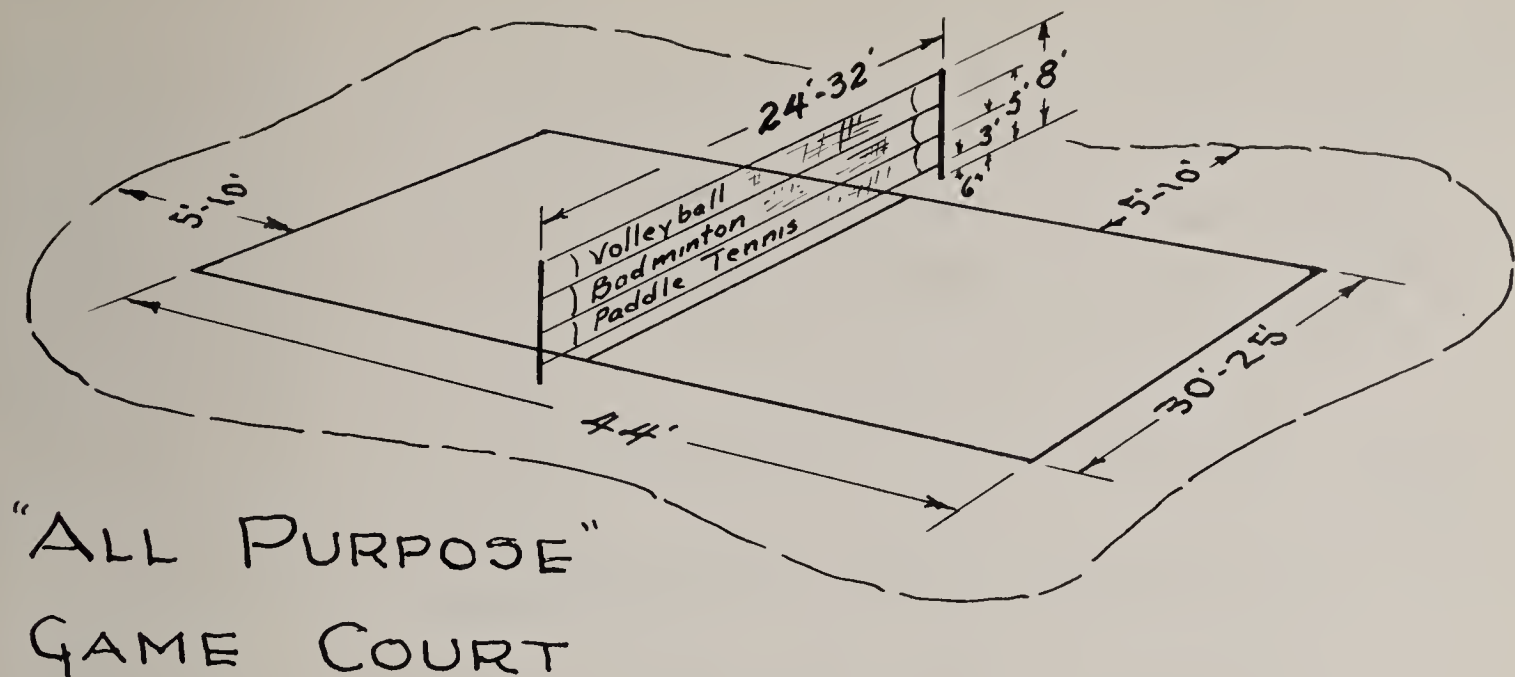
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A Game Court In The Garden

By EDGAR A. JOHNSON

*Landscape Architect, Dept. of Parks and Recreation,
City and County of Denver*

Member, Rocky Mt. Assn. of Landscape Arch.

THE average enthusiastic gardener, which includes me and probably most of you reading this article, usually thinks of his back yard or garden only in terms of beauty created by growing plants. Other uses probably include a utility area and a patio for eating or for just plain sitting.

However, many people need more activity, preferably a game of some sort. If you fit in this category, your garden should provide some form of game court.

Don't say you haven't room! Almost any well designed garden, unless on a hilly site, will provide this space. All you need is a fair-sized area of lawn more or less level. You have probably left the center open and grouped your flowers and shrubs around the edges. If so, here is your "game court."

A lawn area about 30 feet by 60 feet will accommodate almost any court game normally played on lawns. If you haven't this much space, just play on a smaller area—it's all for fun anyhow. No special turf is needed—

any good grass such as Kentucky blue will do.

This court need not interfere with your love of growing things. The only restriction is to avoid planting tender, succulent plants, such as begonias, where they would be ruined by a stray ball or foot.

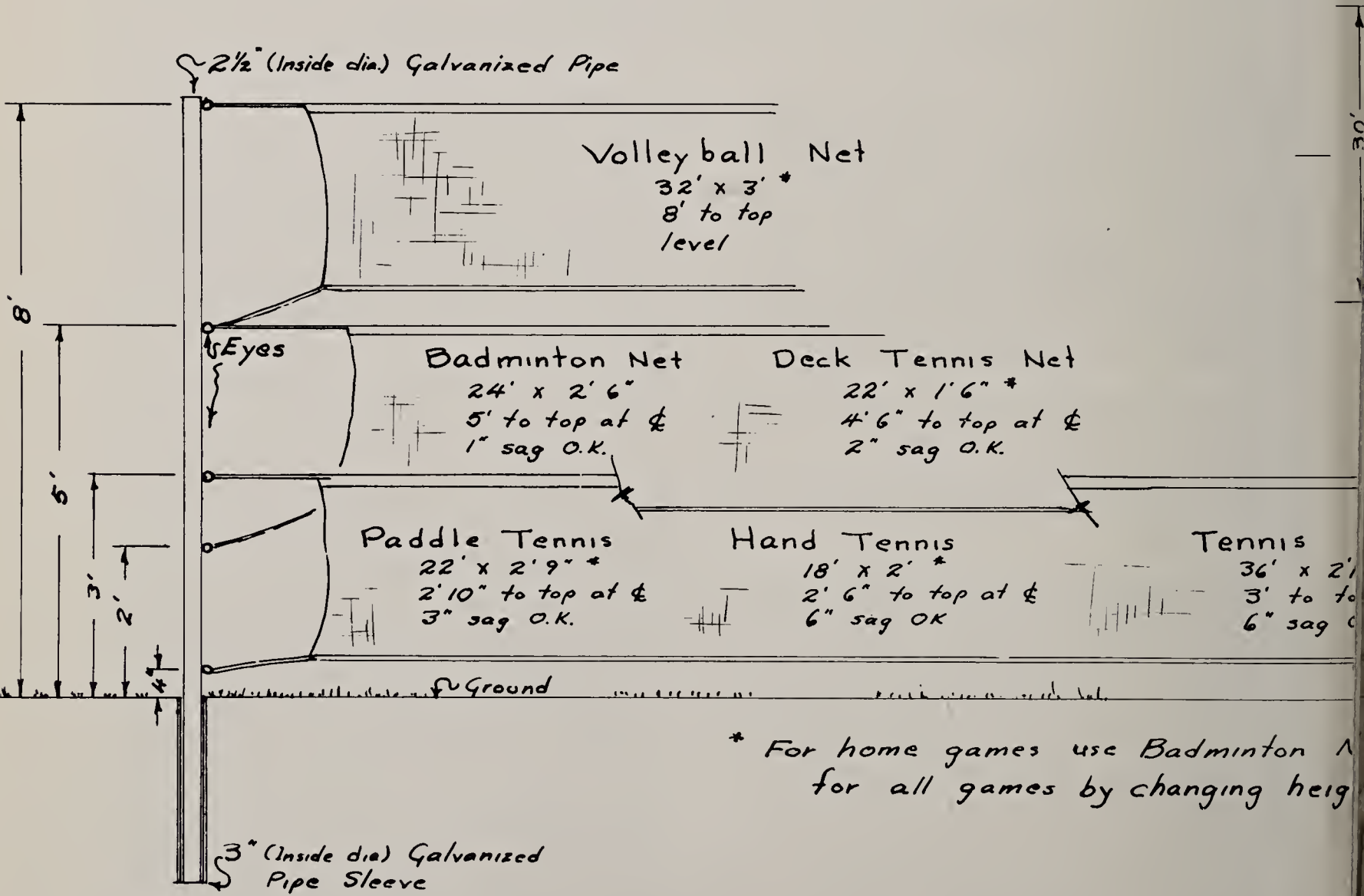
Posts for court games can be placed in sleeves for removal when not in use. If there is space, two or three sets of them are helpful so that the game court can be shifted from time to time to spread out the wear on the lawn. Use 2½ inch pipe for posts and 3 inch pipe for sleeves. Other sizes are possible but be sure the post is one size smaller than the sleeve; for example, 1½ inch post in 2 inch sleeve, etc.

If possible, have one post placed where there is clear space of 10 feet or more on all sides to provide for a tether ball game, currently very popular.

A good many games are possible on a hard surfaced area such as a driveway. Place posts at each side for

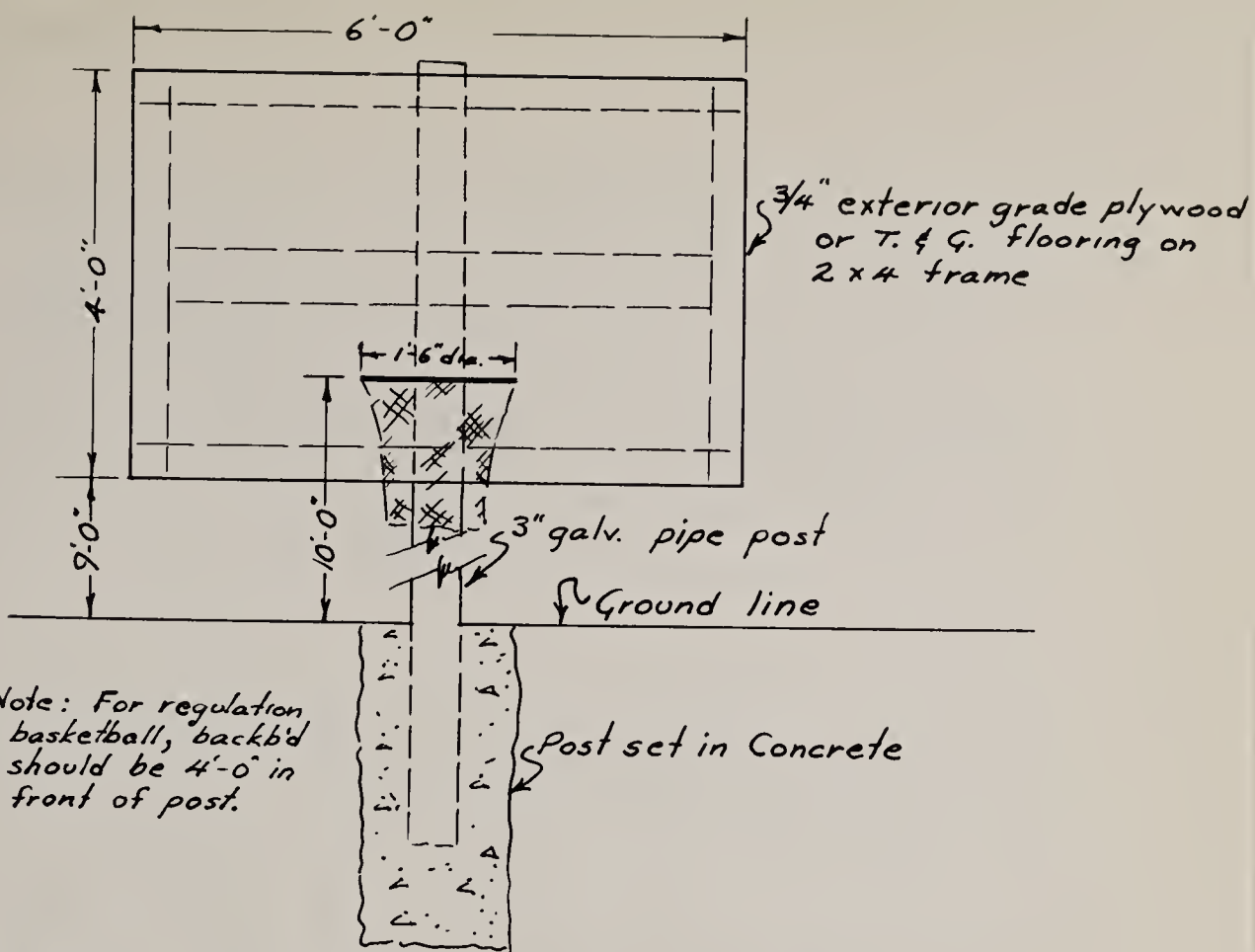
STANDARD GAME COURTS

GAME	BEST SURFACE	EQUIPMENT	W WIDTH	C SIDE SPACE	L LENGTH	C END SPACE	O POST CLEAR NE	
Volleyball	Level	Net & Ball	30'	3'	60'	3'		
Jr. Volleyball	"	" "	25'		50'			
Badminton (Singles)	Level	Net, Bird & Rackets	17'	5'	44'	5'	2'	
" " (Doubles)	"	" " "	20'	"	"	5'	"	
Deck Tennis (Singles)	Level, Hard	Net & Rubber Rings	12'		40'		2'	
" " (Doubles)	" "	" " "	18'		"		"	
Paddle Tennis (Singles)	Level, Smooth	Net, Ball & Rackets	16'	6'	44'	8'-10½"	1'6"	
" " (Doubles)	" "	" " "	20'	"	"	"	"	
Hand Tennis	Level, Hard	Net & Ball	16'		40'		2'	
Tennis (Singles)	Level, Hard	Net, Ball & Rackets	27'	12'	78'	21'	3'	
" (Doubles)	" "	" " "	36'	"	"	"	"	
Croquet (American)	Turf	Croquet Set	25'-30'	None	50'-60'	None	None	
Basketball	Level, Hard	Backstop & basket, Ball	42'-50'	3'	74'-94'	3'		
"All Purpose"	Turf	Varies with game	20'-30'	5'-10'	44'	5'-10'		24'

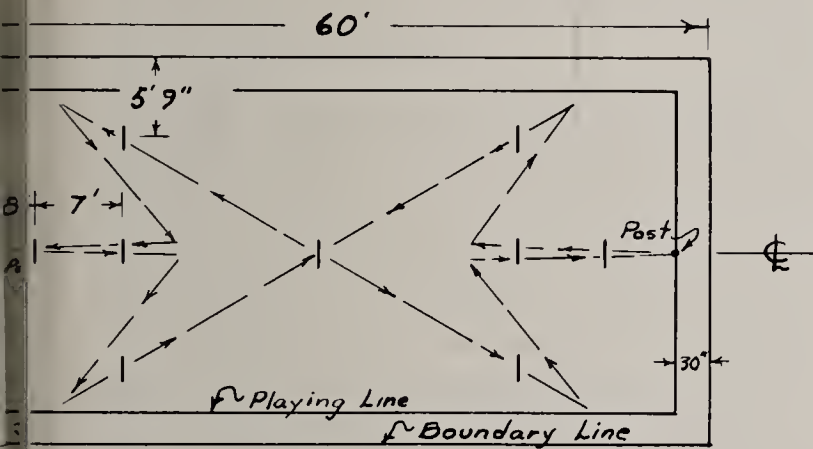


"ALL PURPOSE" GAME POST

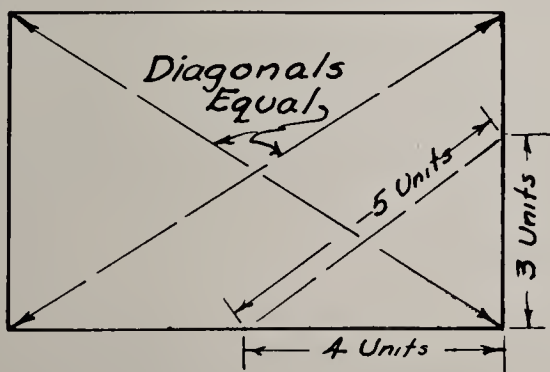
J WIDTH	P POST HT.	H NET HT.
3'	8'	8'
	6' 7"	6' 7"
2' 6"	5' 1"	5' 0"
"	"	"
1' 6"	4' 8"	4' 6"
"	"	"
2' 9"	3' 1"	2' 10"
"	"	"
1' 0"	3' 0"	2' 6"
3'	3' 6"	3' 0"
"	"	"
None	None	None
None		10' (Basket)
1'-3'	8' w/eyes	Varies



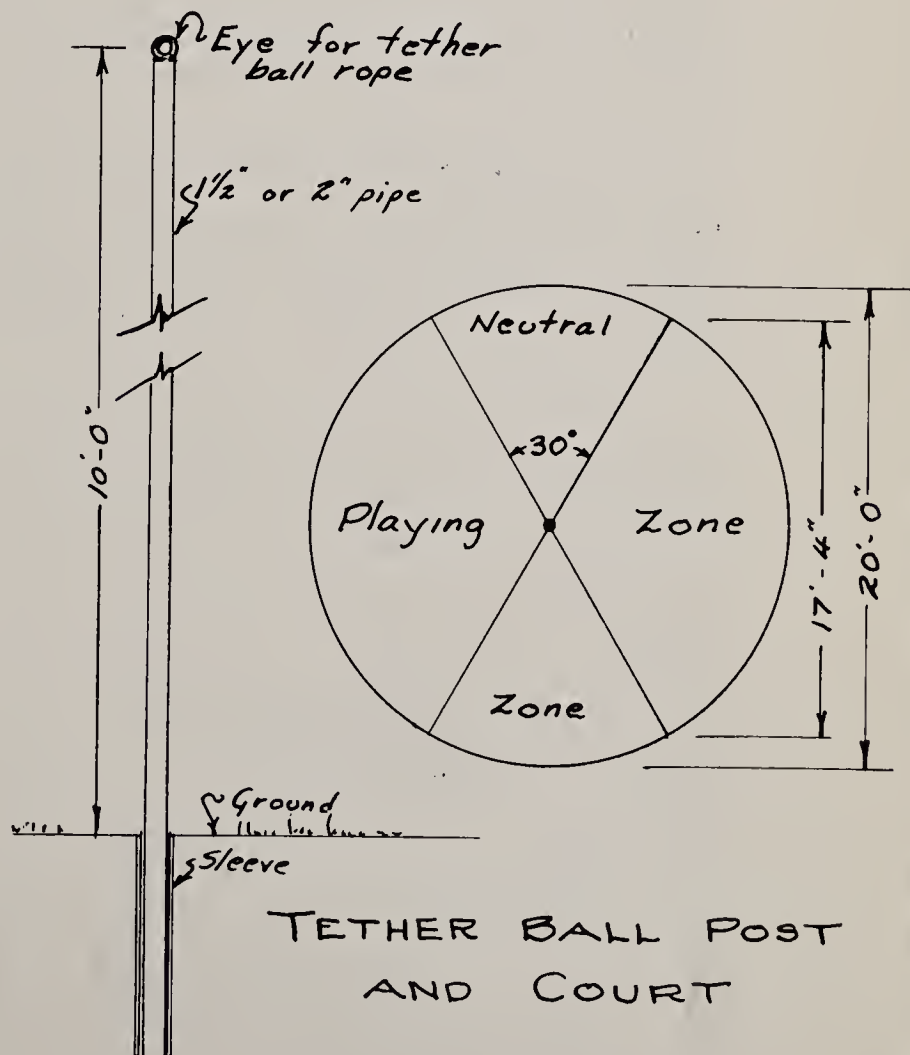
STANDARD BASKETBALL BACKSTOP



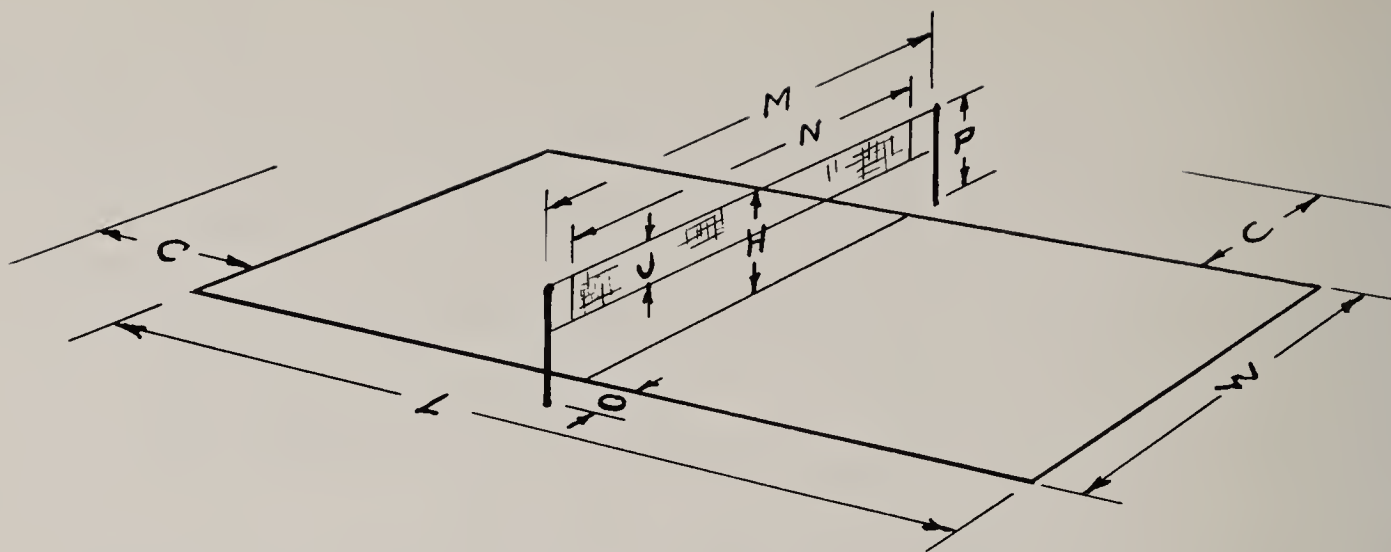
CROQUET (AMERICAN)



HOW TO MAKE A GAME COURT RECTANGULAR



TETHER BALL POST AND COURT



STANDARD GAME COURT

(See table for dimensions and best surface)

games requiring a net. A double driveway is an ideal size, for then a basketball backboard can be purchased or built at home and placed at the end or side of the driveway. Two baskets aren't needed; one will provide plenty of fun.

The easiest backboard to make is rectangular—4 feet by 6 feet—of exterior type plywood, or tongue and groove flooring. The bottom of the back should be 9 feet high and the basket 10 feet high.

A patio can serve for such games as giant checkers, hop scotch, and others. Include them in the construction in an interesting pattern in the paving.

I prefer lawn games, particularly if the lawn is shaded. Croquet, an old favorite, is popular with those who want only a mildly active sport. Wickets, mallets, and balls are all that are needed. Badminton is popular and well suited to lawn areas since the "bird" does not touch the ground while in play, and does no harm if hit into the flower bed. For a large group full

of pep, volleyball fills the bill. Then there are the many adaptations of tennis, including deck tennis which is played with rubber rings instead of a ball.

It is not necessary to choose between all these games, for a single court or lawn area will serve them all. One pair of posts can be provided with eyes for several games and one net, adjustable in height, serves more than one game.

The accompanying table shows standard or regulation sizes, net heights, etc. of the more common court games. It also shows dimensions of an "all-purpose" court which will serve for a variety of games with only minor variations from regulation sizes. When laying out a rectangular area, measure the diagonals. If they are equal, all four corners are 90 degrees. Or measure three units on one side, four units on the other, and then five units on the hypotenuse.

Last, but not least, don't forget some seats for relaxing after a good game, or for those who prefer just to watch.

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GARDEN CLUB BRIEFS

By MRS. EDMUND WALLACE,
Colorado Federation of Garden Clubs

The Denver Rose Society has elected as its new president, Mrs. George Kelly, a prominent member of the Friendly Gardeners Garden Club of Littleton, Colorado. The Rose Society has been gaining memberships rapidly, adding to its prestige under continued and excellent leadership.

Litterbugs will be hatching out in full force now that summer is upon us. Do you have a "Don't be a litterbug" sign on your car? And do you carry a container in your car for "would-be" litterbugs who might be concealed in *your* car? Litterbugs are pests. Try to avoid having them or being one. Keep America—and Colorado—beautiful.

Mrs. John Nickels, president of the Colorado Federation of Garden Clubs, has named a Headquarters Committee to work with the staff at the Botanic Gardens House. They are as follows: Mrs. George W. Holt, Lakes of Bow Mar Garden Club; Mrs. Fred R. Harper, Crestmoor Gardeners; Mrs. Leland Boom, Petal Pushers; Mrs. Edward Campbell, Petal Pushers; Mrs. Robert Taylor, Petal Pushers.

Now that it is finally getting warm, we will miss the many valuable shade trees that street widening operations have eliminated. Two Colorado garden clubs are doing something affirmative while this tree carnage is being carried on. The Broadmoor Garden Club of the Southern District has donated Hopa crab trees for four blocks of new homes in the Colorado Springs area. Mrs. Hugh H. C. Weed is president. And the Southern Hills Garden Club of Central District, under the presidency of Mrs. Henry M. Gay, instigated the planting of three blocks of parking strip on East Dartmouth Avenue, Denver, with Bechtel crabs.

These clubs should inspire all of us to do something positive about the tree-felling fever that seems to be not only local but in the state and across the national as well.

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The Voice Of A Layman

By MRS. GEORGE GARREY

*My hedges are dead,
There's a slug on my rose.
I've a pain in my head
As these spring days disclose
Each winter-killed prize,
Each insect voracious
In my border herbaceous—
But an answer is there
To my scarce uttered prayer;—
Call the Gardens Botanic
To avert this spring panic.*

PERHAPS, like children, we all have a tendency to think in terms of self. Suppose we do just this as we consider Denver's new Botanic Gardens.

What will a Botanic Garden do for me? This is a cold, dark afternoon in May and I don't want to think of what the morning may disclose—perhaps a touch of frost.

What in the world can a Botanic Garden do for me or for my friends? What possible relation could such a Garden have to my backyard anyway? I've enough to worry about with those fungus patches in my lawn and the sick junipers which eye me so accusingly every time I venture outside.

Beside all this, I'm thinking of making a different planting plan. I wish there were a place where I might get some new ideas, where I might see some model gardens that are properly laid out.

The smaller my place is the more important it is going to be to utilize space properly. I'm not willing to set-

tle for two junipers by the front door and one tall shade tree artfully draped over the wires in front of my house, only to be pruned periodically by the Public Service Company.

I'm not sure whether I want a modernistic plan with angular lines, or the informal borders of a cottage close. I would certainly like to get a few new ideas before I do my planting.

It may even be worth while to look over the plans of the new Herbaceous Unit of the Denver Botanic Gardens at 9th and York.

Yes, here is an area marked "Model Gardens." I certainly hope they get these in soon. Perhaps this place is going to do something for me after all.

The other day I saw a truck just in from Texas loaded with wonderful looking broad-leaved evergreens. They were cheap, too. I was on the point of buying some when I remembered that someone had said the Botanic Garden's Unit in City Park has a collection which contains every evergreen which is hardy in this climate, all



Left to right: Mrs. Ed Honnen, Mrs. George Garey, and Mrs. John Nickels discuss ground breaking ceremonies at the herbaceous unit.

labeled. Perhaps I had better check there first.

I can go out there and see just the type I'm going to need, recumbent, pyramidal, any shape I want,—and besides I can find out from Botanic Gardens House about planting and cultivation.

I had almost forgotten that, in this climate, we need to have some place where new varieties of all kinds of plants can be "tried out."

We're celebrating our Centennial this year. I wonder which one of the homesick travellers brought in the first slip of Harrison's yellow rose to plant by his front gate.

Alfalfa, sugar beets, hybrid roses, lilacs—useful or beautiful—all of these have been brought in to this semi-arid, high plains country from far places. It is a challenge to think of what may be done to add to the list of new plants as important as these for our future. I see now what the function of a botanic garden is. It is a research center where every plant which can survive in this region will be tested. And it is a place where *I* can see for myself how they look and grow.

I can use the fine horticultural li-

brary at distinguished Botanic Gardens House at 909 York Street, also.

But that plural, "Gardens," just what does it mean? I am familiar with the existing collections of roses, iris, lilacs, flowering crabs, evergreens, and the many trees at City Park.

I know about the new Herbaceous Unit near Botanic Gardens House, but I have been so absorbed by my own garden that I have almost forgotten one of the most fascinating features of these new Botanic Gardens. This will have to do with our natives—the beautiful and useful plants, shrubs, and trees of our own countryside. How many of these can we use successfully in our own gardens? How many can be hybridized, like the fine potentilla we now see in some of our nurseries?

The first of a series of these native gardens is already established on Mt. Goliath in cooperation with the U. S. Dept. of Forestry. Here, along interesting high altitude trails, many of our beautiful alpine may be found, which some of us have seen only in English rock gardens.

This high altitude unit will be followed by other units—montane, foothills and plains, where native plants will be plainly marked.

Now the spring twilight is falling and the last note of a robin comes nostalgically through the casement. I find myself thinking far beyond the confines of my own dooryard—beyond the city lights which are spreading so far across these high, open plains.

Suddenly, what seemed a prosaic title, "Denver Botanic Gardens", becomes, instead, an invitation to learning.

To be sure a Botanic Garden will be of practical assistance to me in my own small garden.

Something, however, of far greater significance lies beyond such individual services.

The Rocky Mountain area will now have a laboratory for testing both useful and beautiful plants, untried before in this new western country.

The region now has a new research organization which should become a significant factor in economic as well as in scientific fields.



MUSIC OF THE FUTURE—Denver's Botanic Garden

Since Montreal got a Botanical Garden, many home owners have made their homes more attractive according to a descriptive bulletin sent out by Parks Director Claude Robillard.

In 1953 the Montreal Botanic Garden distributed 50,000 leaflets and other publications; 6,468 seed envelopes were sent to 216 botanical gardens and other similar institutions in all parts of the world.

Its School for Apprentice Gardeners awarded six diplomas and 188 school children have learned to cultivate a small plot of ground at the Botanical Garden.

In its herbarium, 55,000 specimens were added. A large exhibition greenhouse will be built. The "Ecole de l'Eveil" (the Awakening School) for children of pre-school age delighted 135 children in the study of Mother Nature.

Two hundred thousand visitors per year find education, delight, and entertainment in the Botanic Garden. Some day Denver will be able to give a progress report to equal or exceed that of Montreal. *Just give us time—and money!*
—MWP



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A New Lawn - Patching Method

ROBERT W. SCHERY, *Director Lawn Institute*

THE severe winter has perhaps left a need for some lawn patching; or maybe difficult slopes and landscaping changes were not completed in time for an advantageous autumn seeding. Either way, a recent development of the "plastic age" may speed and insure the spring seeding of small areas. Of course the same technique would work with larger areas, except it becomes expensive to cover an entire lawn with plastic. But for critical spots, the approximately 2 cents per square foot is worth it.

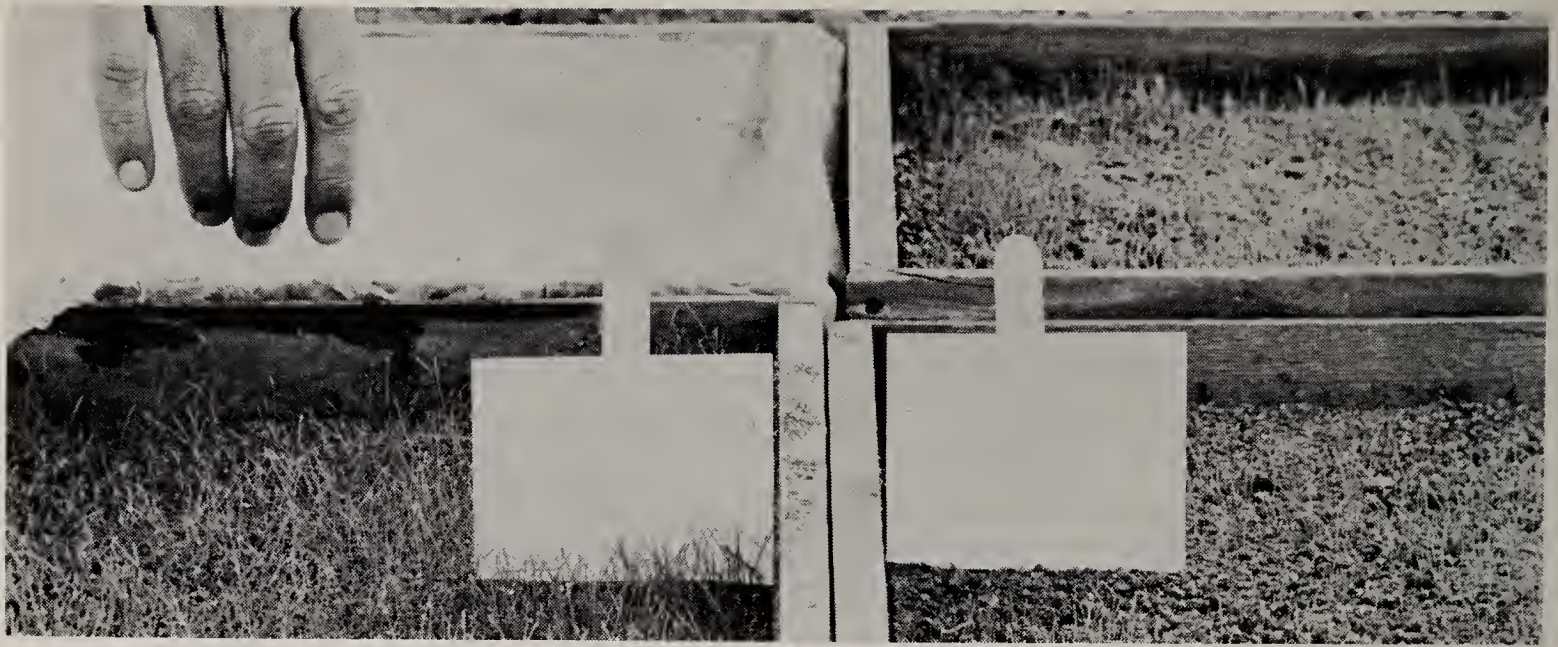
The Lawn Institute was asked by Spencer Chemical Company to undertake some tests on use of polyethylene film for covering seeded areas. Results proved gratifying for establishing quality bluegrass seedlings just about as quickly as mixtures full of impermanent but fast-starting nursegrasses. It should be an aid toward establishing good bluegrass in time to compete successfully with weeds; meanwhile, the

plastic controls erosion until the grass covers thickly.

The method amounts to creation of a temporary clear polyethylene "greenhouse" over the new seedbed. The plastic sheet retains moisture and traps heat, while yet allowing gas exchange for the "breathing" of the seeds and seedlings. Simplest way to hold the plastic in place is to nail it down around the edges with 3 or 4 inch long, large-headed nails. A reasonably calm day makes laying easier. Plastic, nailed to the soil, has withstood the bluster of an entire winter at the Lawn Institute's research center. Before laying the plastic the seedbed should be prepared in the usual fashion—a scuffing or tillage of the soil to loosen and level it, mixing in of fertilizer, and spreading of Kentucky or Merion bluegrass devoid of such nursegrasses as ryegrass, redtop or tall fescues. Since bluegrass runs over 2 million seeds to the pound, as little as a pound per 1000 square



An experimental new lawn seeding on the left received conventional mulching with straw, a polyethylene "greenhouse" cover to the right. Bluegrass under the polyethylene sprouted ahead of conventional mulch.



Bluegrass seedlings in flats under plastic covering (left) show an earlier, more uniform germination than flat on right that was uncovered.

feet will suffice for patching, or 5 pounds for new seedings.

The new seeding is sprinkled before the plastic cover is laid. This single watering will ordinarily see the new seeding through, since evaporation is prevented and any condensation drips back from the plastic onto the soil.

Of course warmth is as necessary as moisture for quick seed sprout. During very cool spring weather even a "greenhouse" over the soil will not warm sufficiently to bring up the grass all at once. But the clear plastic does let sun rays through, checks to some extent re-radiation. In sunny weather, even with cool air and wind, the added warmth under the plastic combines with the abundant humidity to bring seed sprouting along rapidly. The new grass, with this excellent head start, has a better chance of success through the summer.

Once there is appreciable showing of green under the plastic, it should, of course, be lifted. Leaving it on the baby turf will mat the new seedlings. In mid-winter tests (indoors) the Lawn Institute found bluegrass to show appreciably within a week, in flats watered once then covered with polyethylene. Even in experimental plantings held below 65°, bluegrass was about 2 inches tall in three weeks.

There are some other unexpected advantages, too. It seems that children, even dogs, are circumspect about a strip of plastic. They will run right over a straw mulch, but defer to and walk around the crisp plastic.

There has been some speculation whether the plastic wouldn't encourage weeds such as crabgrass to sprout, too. In some tests crabgrass and other weed seed was mixed with the bluegrass. When the seedlings were later exposed to near freezing weather, the bluegrass survived beautifully, but the hot-weather weeds largely killed. This suggests that plantings started early in spring under plastic may actually help control weeds, by encouraging their sprouting in time for kill by late spring frosts.

Of course the plastic can be applied over a newly seeded area anytime nails can be driven into soil. The plastic is tough enough that it will not ordinarily tear at the nail perforation, although folding double along the margins is added insurance. Provided the soil has been leveled and is receptive for seed, new seedings missed at the recommended autumn seeding time can be made anytime through winter, protected by a plastic coating that insures them against wash and for an early start in spring.

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What's New?

A sprayer put out by National Sprayer and Duster Association, Chicago, is equipped with a modern air-cooled engine and with a high-pressure pump to make spraying lawns, flowers, and gardens easy. Liquid fertilizers for lawns and gardens can be applied quickly and easily with the power sprayer and a boom carrying several nozzles. Buildings can be whitewashed, basements sprayed with cold-water paint, and dozens of other jobs done easily with this multi-purpose tool.

A new chemical, Amo-1618 has the opposite effect on plants that gibberellic acid has. In other words it keeps plants bushy, compact, and dark green. However, it won't be available until 1960.

For control of iris borer this month and July, Phosdrin has proved effective. After blooming iris should be fertilized to build up a new rhizome for next year.

There's a new mending tape out made of polyethylene—very good for patching and mending plastics.

Plastic pots have won out over clay pots in recent experiments. Plants do not wilt as readily in them and soil temperatures stay more uniform.

A rooting hormone is now being put up in an aerosol bomb for easy spraying of the cut ends of slips.

A new root feeder put out by Ross Daniels, Inc., premeasures feeding of trees, roses, shrubs, and flowers. It attaches to the garden hose and by use of highly concentrated plant food cartridges, plant food is taken right to the feeder roots. Sub-surface soil is aerated at the same time. Cartridge holder is big enough to hold several types of food tables to suit season and soil.

Now you can roll your own flower garden. It's called Flowerama. Seeds and nutrients are "built into" a special porous mat that literally takes care of itself. Press it firmly into worked up ground and water it. Seeds are supposed to germinate in six to eight days and bloom in six weeks or less. Mats can be cut with ordinary scissors to any size or shape.

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THE TIGER IS THROUGH THE GATE

By GRADY CLAY

Staff Writer, *The Courier-Journal*, Louisville, Kentucky
Associate Editor, *Landscape Architecture*

The following is an excerpt from an article by the same name reprinted by permission of the author and the magazine Landscape Architecture.

Parks: "Sitting Ducks for Highway Men"

Every big city park is a sitting duck for the highway men, and for the local officials anxious to cut down their right-of-way costs.

Any attack on city park lands has the sanction of the American Association of State Highway Officials in its official bible—the *Policy on Arterial Highways in Urban Areas*, published in 1957. On page 91 of this book is a map. It's entitled: "Location opportunities for arterial highways."

And what do they consider a "location opportunity"? The one and only park in the entire city! Their recommended route cuts through not just a little corner of the park, not just across one end of the park, but right smack down the entire length of the park.

If this hasn't happened in your town yet, I can only suggest it's because the highway men haven't been reading their bible lately.

But all too often, I suspect, the highway locators and park grabbers are aided and abetted by stingy, penny-pinching local officials who are anxious to cut down their right-of-way costs by either giving away or selling park land at ridiculous prices.

What about public hearings? I can not speak of the thousands of hearings I have not seen, but from *some* personal observation I am forced to conclude that the public hearing is a carefully staged performance designed to show the audience why the route officially agreed upon in private cannot be changed. As one of the British

motor magazines recently described it, these are affairs where

at worst, aggrieved persons may hear very sound reasons why things cannot be altered.

The burden of proof is placed on the private citizen, who often is poorly informed and easily buffaloeed by technical mumbo jumbo. At one public hearing I recently covered a representative of the state highway department opened the tape-recorded portion of the hearing by making this statement:

The question is whether you believe a good road will help this county. That's the question in an economic-impact hearing. Is a good road needed in your county? I'd like to get a statement from anyone present concerning the need for good roads in this county.

Be Thankful . . . or Be Quiet

In other words, don't make any fuss about the route we've already picked. Just be thankful. And if not, be quiet.

At this point, somebody always asks: "But what about the land speculators? We can't release plans for that highway. Those speculators will rush out ahead of us and grab up the land."

Let me quote the answer given by the editor of *Right of Way Magazine*, the voice of the American Right-Of-Way Association:

A state which has a sound right-of-way acquisition program, predicated upon complete, accurate appraisals, and sound

skilled negotiations, and which releases to the public all available data, has nothing to fear from the so-called speculators. For speculators flourish only where there

is concealment of information, and where right-of-way departments are unskilled, uncertain, and subject to the whims of politics.

PARK INVASION WORRIES GROUP

Recently published in the Denver Post was this letter to the Editor. It seems the State Highway officials have begun to read their "bible."

The Street and Shade Tree Committee of the Colorado Forestry and Horticulture Association has for several years worked strenuously for the protection of trees and parks in the Denver metropolitan area. Now it feels great apprehension over the decision by Judge Marshall Quiat in Denver District Court on March 14th which permits the state to take a 17½-foot strip off City Park for the widening of Colorado Boulevard.

Even though only a narrow strip of park land is involved in this decision, every bit of irreplaceable park land is needed to take care of the overflow crowds of park users and the increasing demands for recreation areas.

Our chief concern is with the precedent established by the decision, which would allow the clipping away and narrowing of the peripheral boundaries of park lands in future cases of this type. Particularly, we have in mind the proposed extension of Josephine Street, north from 18th to 26th Avenue, which will take a 100-foot strip off the west side of City Park. Then there is the proposed widening of South Downing, which will take a similar strip off the west side of Washington Park for its entire length of a mile!

The violation of City Park need not have occurred if the the State Highway Department had built the road within the boundaries of the land dedicated for that purpose many years ago. The direction of the road has been curved into City Park with the excuse it is less expensive to build. But in figuring the cost, Denver's expenses to re-develop the reduced park and golf course area are not taken into consideration.

For many years Denver has been noted for its beautiful trees and parks, however, in recent years more trees have died and been destroyed than have been planted. The area of parks has not kept pace with the population growth of the city.

These are the reasons why our committee has opposed this particular park invasion and will continue to oppose other proposals for use of park land for highways and other purposes. Such uses seem inconsistent with the provisions of the city charter, which says, "No portions of any park shall be sold or leased at any time."

Signed:

Richard Armstrong
Mrs. Alexander Barbour
Fred Beier
J. Harrison Belknap
Mrs. W. H. Crisp
S. R. DeBoer

Patrick J. Gallavan
Fred R. Johnson
Clyde Learned
Frederick Schmitt
Carl Schulhoff
Earl J. Sinnamon

There's Something About A Waxwing

By JAMES B. STEWART

WE did not fully appreciate our lovely hopa crabapple tree, a giant bouquet of pink blossoms in the spring, until the Bohemian waxwings flocked to it in early February. A few robins that stayed all winter and some house finches joined the friendly visitors from Canada. And were we glad that last fall we left the crabapples on the lawn where they fell! They fed the birds through February and into March. We realized that our tree was useful as well as ornamental—a veritable horn of plenty.

When there was no more fruit, we fed our feathered visitors raisins and apples. We may have done one lone waxwing a disservice because it came back to us for days after the flock had departed. Imagine that long trek to the Arctic Circle without your pals! Yes, "Arctic Circle," for that is where the Bohemian waxwings make their nests, and the book says that but few of their nests are ever found.

Fortunately, there is a large beautifully shaped honeylocust tree only a few feet from the pink hopa. The flock would first light in the locust and then swoop gracefully to the lawn under the hopa. All of a sudden, and without any apparent reason, they would fly back to the comforting big tree. Restless birds, soon they were again down feeding. To add to their security, there is an enclosing brick wall *and* no cats. After a snowstorm, when the twigs were "ridged inch deep with pearl", I would get needed exercise by uncovering some of the crabapples around the tree.

The waxwings are very tame and when one flies by very close, skimming the top of my head, I get "chin-chillas" up and down my spine just as did the teenage girl every time she heard the voice of her Texas boy

friend on the telephone. So well mannered and so considerate are these nomads that a birder declares he has seen five of them on a branch pass a cherry down the line. The prettiest of sights was the time a dozen of the crested visitors lighted on the thin branches of our little but hopeful mountain ash. They were fascinating as they swayed up and down and all around.

In our east lawn there are two young red oak trees and close by two adstringen crabapple trees with pink blossoms, two dolgo and one ringo. The latter two varieties have white blossoms, and their fruit makes delicious jelly. But come next fall we shall have to make an important decision, i.e. whether to make jelly or to leave the fruit for the waxwings. Fortunately, however, because of a late spring, there is little likelihood of blossoms being nipped by Jack Frost and so a bumper crop of hopa crabapples is to be expected. And they are the kind the waxwings like best.

For the further delight and nourishment of our birds, there is a row of Russianolive trees forming a background for a long deep shrub bed. These birds welcome its seclusion and coolness. A number of large Colorado pinyon pines provide protection in winter and a place for nests in the spring. There is, of course, a bird bath located on the edge of the shrub bed. And by the way, have you ever courted man's best feathered friend? For a thrill, greet robin each day with a whistle. He wiggles and waggles and then comes out with: "Keep it up, old pal!"

A few short years ago we enjoyed the gay song of the meadowlark, but we now hear that bird's delightful trills

only occasionally due to a "population explosion" in the neighborhood of 400 Carr near the slopes of the Rockies.

P.S. The long winter of '58-'59 re-

calls what Bill Nye once said: "Sometimes winter lingers so long in the lap of spring that it occasions a great deal of talk."



FOR IRIS LOVERS

I. BULBOUS IRISES: Include the *xiphion* section, with roots that die off annually. Example: *Iris xiphium* ("Dutch" iris), *I. xiphioides* ("English" iris), and *I. reticulata*, the tiny winter bloomer; and the *Juno* section, whose bulbs have fleshy roots that do not die off annually. Many of the latter are not reliably hardy here.

II. RHIZOMATOUS IRISES: With a creeping root-stock. Includes: The *Apogons* (Beardless) such as the Siberians, Louisianas, California natives, our own Rocky Mountain native, *Missouriensis*, and the Japanese irises.

Pogons (the familiar Bearded Iris): The Tall Bearded, mostly hybrids of European and Asiatic species of various kinds; the Dwarf Bearded which include several species and their hybrids; and the Intermediate Bearded or Medians, between the Talls and Dwarfs for size and bloom time and often hybrids between the two;

Oncocyclus: With a wider, sparser beard than the *Pogons*, and a distinctive, blocky form of bloom and interesting veined and dotted coloring. They are natives of the Near East. One of them *Gatesii*, when crossed with a *Pogon* started the famous "Mohr" family of iris;

Regelias: Similar to the *Oncocycus* for native habitat and cultural needs but with a narrow beard and narrow, pointed segments;

Evansias: With a raised crest on the falls instead of a beard. Some of these are U. S. natives and others are from the Orient. Many are tender and one should know their needs before attempting to grow them.

Pardanthopsis: A group represented by a single species, *Iris dichotoma*, the Vesper iris which puts out many little flowers on multi-branching stems on August afternoons.

Two groups, *Nepalensis*, with a bristly, bud-like root, and the cormous *Gynandriris* are so rare that we are not likely to have occasion to see them so will not describe them further.

Later, we hope to give you more details about some of these groups. If there is some other scientific angle you would prefer to have discussed, please let us know.

Lys Housley, *Iris Society*

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Timely Tips

If you must try to grow acid-loving plants in the alkaline soils of this part of the west, remember that they have three basic requirements. They need: 1) lots of humus, 2) fast drainage, 3) plenty of water. Plant them in dappled sunlight, protected from strong winds which increase water loss from leaves. Fertilize lightly and frequently.

The following is the latest from Colorado State University in Fort Collins:

SOILS. In general, soils in this area need a large amount of organic material plus nitrogen and phosphate. Soils do *not* need lime, gypsum or other minor minerals. Sometimes iron sulfate is needed. Where alkali is a problem, drainage is a must.

LAWNS. Established lawns respond to a commercial chemical high in nitrogen and deep *infrequent* watering. New lawns should be planted only after a heavy application of organic material, super-phosphate, and nitrogen has been worked well into the soil. Best seed for use in new lawn is Kentucky bluegrass or Merion bluegrass. Mixtures are inferior to straight bluegrass plantings.

INSECTICIDES. Phosphate types of insecticide should be used with *extreme* caution. These include TEPP, Parathion, EPN, Metocide, Phosdrin, Demeton, Trithion and Guthion. The other phosphate, Malathion, can be more safely used. Aldrin, Chlordane, Dieldrin, Heptachlor, and Toxaphene can be used for grasshopper control. The least toxic of this group is Heptachlor. All insecticides *must* be used according to the manufacturer's recommendations.

you are invited to see

and enjoy the 1959

ANNUAL ROSE SHOW

presented by the Denver Rose Society

THE DAY — *Sunday, June 21*

THE TIME — *1:00 to 8:30 p.m.*

THE PLACE — *The beautiful air-conditioned
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F.O.I.C.

Seasonal Suggestions

IN a few weeks our short spring will draw to a close and summer with its warmth and bountiful bloom will take over in the garden. This period of the year calls for considerable garden maintenance. Lawns need watering, fertilizing, weeding, and mowing. Flowers and shrubs need to be trimmed and sprayed. On the surface it appears to be a formidable task. However today, with modern equipment and chemicals, gardening need not occupy all our spare time. By way of contrast, note the following quote from a June garden calendar written in 1859. "The aphides now begin to appear on the rose trees, and they should be destroyed by dipping the top of the shoots into clear water and shaking them gently in the water." Can you imagine the time this would consume? Now we merely need to spray with malathion.



Danger of frost is past, so that annual bedding plants can be set out safely now. You can also sow seed of quick growing zinnias, marigolds, and sweet alyssum. If you have a little space to spare, try a few tomato plants. There are a number of varieties available for the Rocky Mountain region such as Burpee, Rutgers, and Big Boy hybrids. Any of these will give a good crop of tomatoes before frost.

It's time to give your house plants a rest. Set them outside in pots and in partial shade. Keep them watered and check them occasionally for insect damage. Otherwise they can be neglected. Speaking of planting, don't forget that most trees, shrubs, evergreens and roses are available in containers at reliable nurseries and garden shops. These container-grown materials can be planted throughout the summer with excellent results.



Here are a number of suggestions for lawn care this month: Spot treatment with 2,4-D on dandelions and plantain missed by earlier spraying should be done if these pests are to be eradicated. This is where an applicator such as the Killer Cane comes in handy. Watering is important but don't overdo it. A good soaking equivalent to about 1 inch of rainfall per week is sufficient. Post emergent treatment of crabgrass with disodiummethylarsenate or aminemethyl arsenate should be applied the 15th of June and again in July. Foot rot or melting out diseases of grass may also be a problem this year. Captan or actidione RZ have proved effective against them. Finally, if you have begun a regular fertilization program, your second application should be made the last week in June.

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Roses suffered quite a set back from the late spring freeze but should be blooming before the end of the month. Give them a low analysis fertilizer such as 6-10-4 or 5-5-0 as they begin to set flower buds. Watch carefully for aphids and spider mites. Malathion will control both. Experts advise spraying every two weeks to keep them in control. An early spray with karathane, phaltan, or actidione PM will stop mildew and black spot.

Early blooming shrubs should be pruned as soon as possible after flowering so that next year's blossoms won't be destroyed, and evergreens should be sheared now while they are making new growth. Be sure to check them occasionally for mites and aphids. Once again, malathion is the spray to use. On larger trees such as elms, summer aphids and scale control is a must to help these trees stay healthy. Thorough spray coverage is essential. Call your local arborist for service.



Of course there are other small garden chores—mostly routine—such as picking off faded blooms, etc., but plan your garden work so that it leaves some of your weekends free. Then take a trip to the mountains to enjoy all the wild flowers in Nature's untended garden.

—PAT.

C. G. WILHELM

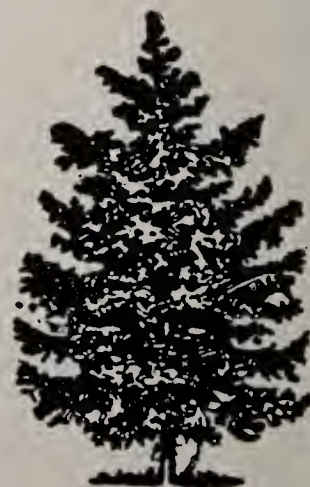
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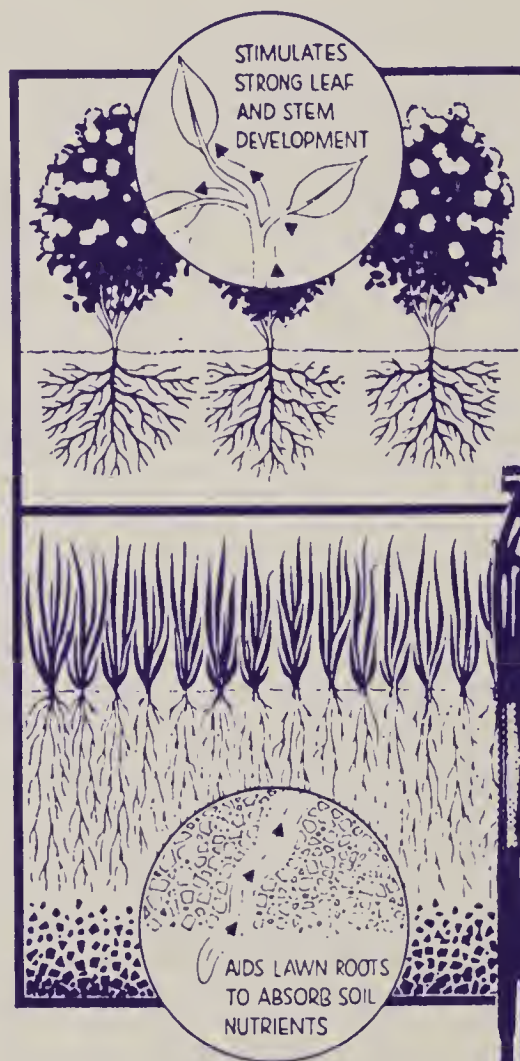


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The Green Thumb

The Magazine for Rocky Mountain Gardeners

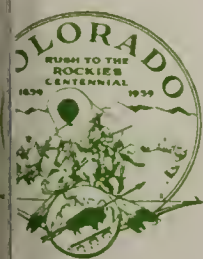


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JULY

1959

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YOUR PRICELESS TREES



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GARDEN IN DENVER'S CIVIC CENTER

From
"Beautiful Gardens in Denver"
By S. R. DeBoer

JUNE

Vol. 16

No. 6

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The Green Thumb

Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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The Colorado Forestry and Horticulture Association

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EA 2-9656

909 York St.

Denver 6, Colorado

Calendar of Events

"Fun with Flowers"—A lecture and demonstration is followed by the making of arrangements. Each person brings containers, mechanics, and material. The workshops are open to everyone. Due to popular demand the workshops will be held each month at the following times and places:

Workshop No. 2—Lakeside Denver Dry Goods, 44th & Harlan, Denver, First Friday of each month, 10:00 a.m.

Workshop No. 3 — County Welfare Bldg., north of Littleton Court House, Littleton. Third Wednesday, 10:00 a.m.

Floral Art Course: Opportunity School. Every Thursday 9 a.m.-11:30 a.m., 1 p.m.-3:30 p.m., 6:30 p.m.-9:15 p.m. There is no charge except for materials.

The Green Thumb Program—Every Saturday morning on KLZ at 10:15 a.m.

July 8 & 9—Centennial Look and Learn Tour.

BOTANIC GARDENS' HOUSE MEETINGS 909 YORK ST.

July 8—B. J. Garden Club—1 p.m.

July 8—Organic Garden Club—8 p.m.
July 11—Mountain View Tour—10 a.m.

July 13—Judge's Council—10 a.m.

July 14—Evergreen Garden Club—7-10 p.m.

August 6—Botany Club—7:30 p.m.

August 6 — Crestmore Park Garden Club Flower show and tea.

IF FOLKS ONLY KNEW

how many
Minutes of Thinking
Hours of Digging
Inches of Back-ache
Weeks of Coaxing
Barrels of Oil
Pounds of Fertilizer
Bushels of Rich Dirt
Gallons of Water
It takes to produce
A Pretty Flower,
They would gladly
Pay the Price!

The above reflection we found in the pleasant reception room of the First Avenue Flower Shop. Its author is unknown; we felt our readers would enjoy sharing the sentiment.

—MWP

On the sundial in the garden,

*The great sun keeps the time;
A faint, small moving shadow,
And we know the worlds are in
rhyme.*

*But if once that shadow should falter
By the space of a child's eyelash,
The seas would devour the mountains,
And the stars together crash.*

MEMBER

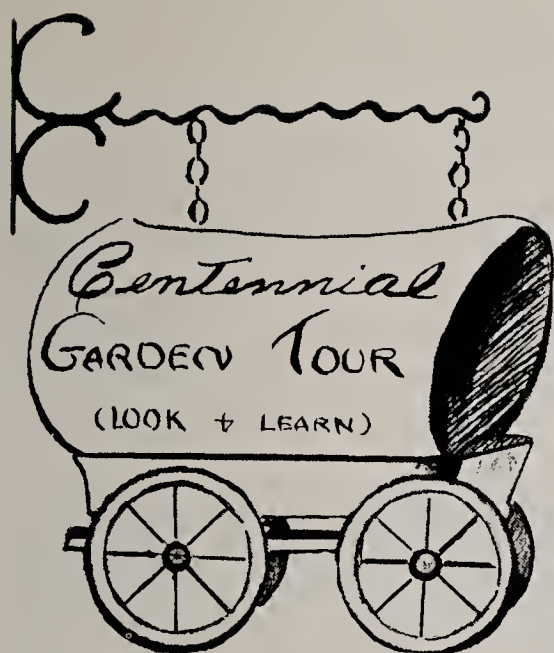


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DOOR PRIZES BY THE DOZEN

Do you want a subscription to BETTER HOMES AND GARDENS? Do you need new hoses? Are you desperate for a sprinkler? Then buy your ticket for the Centennial Look And Learn Garden Tour and win one of these—plus other door prizes.

When Mrs. Merriam Berger, ticket seller, and Mrs. Matson Holbrook, head of motor corps, started collecting door prizes from amiable merchants they were pleased when they secured an even dozen—one for each garden on the tour.

The following firms are donating gifts in support of your Horticulture Association:

Aylard's Crestmoor Pharmacy
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Hilltop Hardware
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Pooh Corner Book Store
Swingle Tree Surgery
Third Avenue Florist
Van Schaack & Company
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On the back of every ticket sold is a number which might make YOU a lucky winner.

At the meeting of the ticket selling-telephone committee on June 10th Miss Sally Davis and Mrs. George

Hayden distributed 1,000 tickets to be sold this month. Each member of this large committee has a list of names to be contacted by telephone; however, **THIS IS IMPORTANT**, if by some mischance you are not contacted, please call the Colorado Forestry and Horticulture Association, EAst 2-9656—your ticket will be delivered to you.

The dates: July 8th and 9th. The price \$3.50.

The gardens: Mr. and Mrs. Sidney Brock, Jr. (Ancestors: George Kassler, Edwin Stebbins Kassler); Mr. and Mrs. Albert Coleman (Ancestors: Dr. Charles Denison, Wm. F. Swan); Mr. and Mrs. George Cranmer (Ancestors: Wm. W. H. Cranmer, Delos Allen Chappell); Mr. and Mrs. John Evans (Ancestors: Gov. John Evans, Walter Scott Cheesman); Mrs. George H. Garrey (Ancestor: A. E. Reynolds); Mr. and Mrs. Thomas B. Knowles (Ancestor: Charles B. Kountze); Mr. and Mrs. J. K. Malo (Ancestor: J. K. Mullen); Mr. and Mrs. Everett Parker (Ancestor: Andrew Jackson Williams); Mr. and Mrs. William E.



Mrs. Joseph Wagner, treasurer for the Centennial Look and Learn Garden Tour, checks ticket numbers with Miss Sally Davis (right), co-chairman of tickets and publicity.

Sweet, Jr. (Ancestors: Channing Sweet, Gov. Wm. E. Sweet); Mr. and Mrs. Henry Toll (Ancestors: Charles Hansen Toll, Edward O. Wolcott); Mr. and Mrs. Jere M. Wilson (Ancestor: Isaac Van Wormer); and Mr. and Mrs. Max Zall (Ancestors: Herman and Leah Zall).

At each garden you will receive a short biographical sketch of the early

pioneers whose descendants are showing these gardens.

**RUSH TO THE ROCKIES . . .
RUSH TO THE SUPPORT OF
HORTICULTURE ASSOCIATION.**

**IT WOULD BE APPRECIATED
IF LOW HEELS WERE WORN! A
lawn can take just so many spikes.**



Mrs. George Hayden, co-chairman of tickets and publicity, gives Mrs. Hugh Catherwood (right), general chairman with Mrs. Barbour of all garden tours, her list to telephone for ticket selling.

USE INSECTICIDES WITH CARE

Insecticides are designed to destroy insects, but if they are used improperly or carelessly they are injurious to other forms of life. This characteristic is not confined to the newer insecticides such as DDT and parathion. Arsenic is well recognized as a potent poison, yet it is said to have been used as early as A.D. 900 to control insects on garden plants. Every gardener of today is familiar with arsenate of lead as a stomach poison. Nicotine, the native alkaloid of tobacco, is one of the deadliest poisons ever developed, yet an extract containing 40 per cent nicotine was patented as an insecticide half a century ago, and still is widely used to control sucking insects. Rotenone, an insecticide relatively harmless to warm-blooded animals, is toxic to fish.

If you use any insecticide, whether it be a material that has been on the market for many years or one that is being introduced this spring, be careful. Read the label and the cautions given regarding use and handling. Keep the material in its original container. If the label becomes defaced so that the printing is not legible, don't take a chance on your memory of the material and the directions; destroy the container and its contents. Keep all insecticides out of reach of children and pets. Burn or otherwise destroy all empty containers.

WASTELAND

(From "More in Anger," by Marya Mannes, published by J. B. Lippincott, copyright 1958. Reproduced by permission.)

Cans. Beer cans. Glinting on the verges of a million miles of roadways, lying in scrub, grass, dirt, leaves, sand, mud, but never hidden. Piels, Rheingold, Ballantine, Schaefer, Schlitz, shining in the sun or picked by moon or the beams of headlights at night; washed by rain or flattened by wheels, but never dulled, never buried, never destroyed. Here is the mark of savages, the testament of wasters, the stain of prosperity.

Who are these men who defile the grassy borders of our roads and lanes, who pollute our ponds, who spoil the purity of our ocean beaches with the empty vessels of their thirst? Who are the men who make these vessels in millions and then say, "Drink—and discard"? What society is this that can afford to cast away a million tons of metal and to make of wild and fruitful land a garbage heap?

What manner of men and women need thirty feet of steel and two hundred horsepower to take them, singly, to their small destinations? Who demand that what they eat is wrapped so that forests are cut down to make the paper that is thrown away, and what they smoke and chew is sealed so that the sealers can be tossed in gutters and caught in twigs and grass?

What kind of men can afford to make the streets of their towns and cities hideous with neon at night, and their roadways hideous with signs by day, wasting beauty; who leave the carcasses of cars to rot in heaps; who spill their trash into ravines and make smoking mountains of refuse for the town's rats? What manner of men choke off the life in rivers, streams and lakes with the waste of their produce, making poison of water?

Who is as rich as that? Slowly the wasters and despoilers are impoverishing our land, our nature, and our beauty, so that there will not be one beach, one hill, one lane, one meadow, one forest free from the debris of man and the stigma of his improvidence.

Who is so rich that he can squander forever the wealth of earth and water for the trivial needs of vanity or the compulsive demands of greed; or so prosperous in land that he can sacrifice nature for unnatural desires? The earth we abuse and the living things we kill will, in the end, take their revenge; for in exploiting their presence we are diminishing our future.

And what will we leave behind us when we are long dead? Temples? Amphora? Sunken treasure?

Or mountains of twisted, rusted steel, canyons of plastic containers, and a million miles of shores garlanded, not with the lovely wrack of the sea, but with the cans and bottles and light-bulbs and boxes of a people who conserved their convenience at the expense of their heritage, and whose ephemeral prosperity was built on waste.

MARSHALL NURSERIES

Better Built Trees — Landscaping with Personality

5825 W. 16th Avenue

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HOW TO MAKE A

By GEORGE W. KELLY



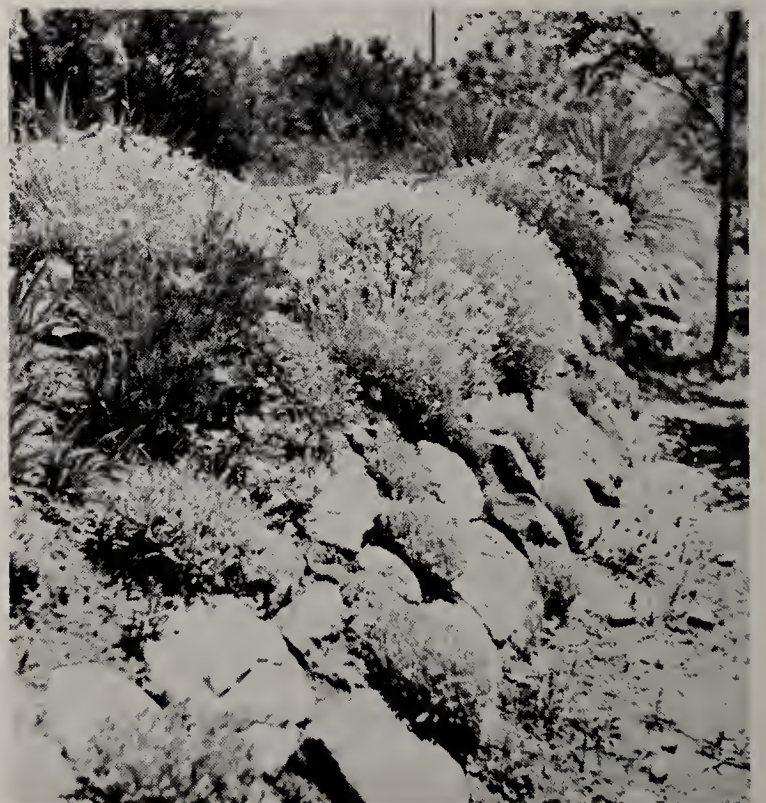
George Kelly is one of those rare individuals who has become almost a legend in his own life-time because of his love for, and knowledge of, horticulture. First a nurseryman for many years, then editor of The Green Thumb and director of the old Horticulture House at 1355 Bannock Street, Denver, and now owner and operator of the Cottonwood Garden Shop, he continues to work for the furtherance of horticulture in the Rocky Mountain region. While director of Horticulture House, he worked hard for the establishment of a botanic garden—now a reality.

As a result of his dedication to gardening in the Rocky Mountain states, he was given national recognition by the American Horticultural Council in 1957 "for opening the way to successful gardening in a section of the country where growing conditions are adverse." In 1955 he won the Johnny Appleseed award given by the Men's Garden Clubs and has always taken an active part in conservation groups. Author as well as horticulturist, he wrote a much needed book for home owners called "Rocky Mountain Horticulture Is Different." Recently revised and renamed, "How To Have Good Gardens in the Sunshine States," this is the only gardening book written for this section of the country.

But just as an equation can be more than the sum of its parts, so can a man. A stubborn, rugged individualist of volatile temperament and pixie-like humor, George Kelly has a heart as big as his beloved West, and if you're lucky enough to be counted among his friends, you may enjoy a very special treat. At the end of each summer, George, and his attractive wife Sue, invite their friends to enjoy a good old fashioned corn roast with them. The corn, of course, is straight from their garden. They guarantee you'll never eat it "store bought" again!

A good rock garden adheres to the same three rules that govern the making of a good garden of any kind. It must have good design, good materials, and good maintenance. Without any one of these three things, it can only be mediocre or poor.

There are too many examples in the Rocky Mountain region of the other kind—piles of unrelated rocks jabbed in the ground at regular intervals in the center of a bare backyard, and planted with left-overs begged from neighbors. These then become overgrown with weeds and other rank growing things, and are usually decorated with kleenex and newspapers blown in with the last wind.



A collection of unrelated rocks.

GOOD ROCK GARDEN



A perfect natural rock garden is this picture of "The Golden Throne" in Capital Reef National Park, Utah. Photo by Chas. J. Ott.

DESIGN

However, in the mountain states a well-made rock garden is appropriate for it brings the theme of the mountains into our gardens on a small scale. A good rock garden is a little bit of transplanted mountain terrain. An

ideal location for it is a natural slope facing north or east. But a rock garden of a sort can be made on level ground or on south and west facing slopes—it is just more difficult to construct and maintain.

One important requirement in design is to have it separated or partly



Natural placement of rocks can be effective even in a small garden niche.

screened from other areas and disturbing features so that it is a unit in itself when seen from a main vantage point.

Another equally important requirement is to use at least a few large rocks, placed as they might have been in Nature. Stratified, sedimentary (sandstone) rocks are much easier to arrange convincingly than are granite boulders. If they are interestingly weathered and covered with lichens, so much the better.

Most plants appropriate for using in rock gardens are accustomed to a loose, well drained soil, so it is well when placing rocks to backfill around them with a good soil mixture containing sand or gravel and lots of peat or leaf mold. Omit strong fertilizers, either organic or inorganic.

Where space and location permit, small waterfalls or rills, circulated by a small, inexpensive pump, add interest and beauty. A small pool in a nook at the base of the rocks serves as a bird bath.

If it is not possible to make a convincing natural-looking rock garden because of limited space or unsuitable

location, then a definitely man-made construction can often be designed in the form of a dry wall, fountain, platform, or other feature. This type of rock work takes especially careful planning to be artistic.

Things other than rocks or plants can add to the effectiveness of a rock garden if they are carefully selected. A well-weathered stump, timberline



Running water and placid pools go well in a rock garden.

tree, or limb often fit in naturally with the other features. Avoid things that are foreign to the theme of the garden and look too artificial.

PLANT MATERIAL

The kinds of plants used in a rock garden are what really make it attractive. Using the rocks as frames, they must be carefully selected and placed to create a picture. The final effect should be much like scenes in our mountains and even though called a rock garden, the rocks should not dominate.

In general, small, slow-growing plants similar to those growing above timberline where the season is short, the winds strong, and the climate rugged, are the most effective. There should be a good balance between dwarf evergreens, dwarf shrubs, and flowering perennials. Many native plants are suitable if they can be obtained, but there are many other appropriate ones which are generally available at good nurseries. Nothing spoils a rock garden quicker than planting rank growing plants such as common iris, darwin tulips, oriental poppies, or lilacs. But early dwarf iris, species tulips, Iceland poppies, or bush cinquefoil might fit right into place.



A well designed dry wall may be the solution where space is limited.



A timberline tree or a branch of driftwood often fit into a good rock garden.

In general, plants useful in a rock garden are classified as those requiring partial or complete shade and those tolerating full sun. Most of the books written on the subject are for the East or England so the plants mentioned for full sun usually do better here with half sun, and those recommended for half sun are better on a north side.

There are only a few that tolerate full sun or the extra heat of a south side. Avoid rank growing things such as *Cerastium* and wild strawberry unless the area is separated from other areas where nice plants grow, or is so difficult that nothing else will survive.

MAINTENANCE

The rocks in a rock garden may "stay put" for a lifetime but the plants do not. Some of the survivors of the first rock garden craze in Denver some 20 years ago are now hopelessly overgrown and unattractive. There must be a continuous process of weeding out rampant growers and planting back those of short life. Neatness is as important as in any other garden. Little fertilization will be needed if the soil has been properly prepared before planting and little cultivation will be needed since plants will cover most of the exposed soil. The addition of peat



Kinnikinick



Dwarf Juniper



Rock Ferns

or leaf mold as a mulch should be added frequently and watering done *infrequently* but thoroughly. Nicer alpine plants would appreciate a system of sub-irrigation where they are watered from the bottom up. Even though a rock garden requires inspection and care it should always look as if it grew that way naturally. I know of no place where there is a better blending of art and science than in designing, building, planting, and maintaining a *good* rock garden.

Rock Garden Plants For The Sunshine States

EVERGREENS

For backgrounds and screening:

Pinyon pine
Japanese table pine
Oneseed juniper
Mugho pine
Juniperus virginiana glauca

Dwarf creepers:

Juniperus horizontalis admirabilis
Juniperus horizontalis adpressus
Juniperus horizontalis pulchellus
Juniperus horizontalis lividus
Juniperus horizontalis petraeus
Juniperus horizontalis planifolius
Juniperus chinensis procumbens
Juniperus chinensis procumbens nana
Juniperus communis montana—native
low juniper for part shade



Columbine

Dwarf Alberta spruce — north side.
Other dwarf spruces may be available.

SHRUBS

Background and screening shrubs:

- Thimbleberry
- Antelope brush
- Dwarf ninebark
- Wax currant
- Mountain mahogany
- Dwarf mockoranges
- Dwarf honeysuckles
- Other similar informal shrubs native and cultivated.

Low shrubs (mounded or creeping) for among rocks:

- Leadplant
- Barberries, especially the new dwarf types
- Dwarf caragana
- Various cactus
- Euonymus (wintercreeper, upright, evergreen, *Euonymus minimus*)
- Oregongrape (*Mahonia repens*, *Mahonia aquifolium*)
- Bush cinquefoil — especially the improved varieties such as Goldrop
- Rocky Mountain sumac
- Alpine currant
- Native trailing gooseberries
- Native red-berried elder
- Snowberry and coralberry — the new dwarf and trailing varieties
- Dwarf cranberry bush
- Miniature and baby floribunda roses
- Native salmonberry
- Yuccas in variety



Low half shrubby Gilia



Myrtle (*Vinca minor*)



Daisies



Phlox



Pasque flower



Cactus Opuntia

VINES

Hardy vines such as the native white clematis and Hall's honeysuckle may be planted to sprawl over large rocks or bare earth. Myrtle and English ivy are effective as ground covers in shady places.

BULBS

Species tulips
Scilla
Crocus
Grape hyacinth
Dwarf narcissus
Chionodoxa
Coral lily

ANNUALS

Few annuals are appropriate in rock gardens, but low informal ones such as *Portulaca*, sweet alyssum, lobelia, and verbena can sometimes be used.

Rock Garden Plants for Average Locations:

Arabis (rockcress)

Aubrieta
Aethionema (stonecress)
Linum (flax)
Plumbago
Veronica (speedwell)
Aster (Niobe aster)
Dianthus (hardy pinks)
Euphorbia
Iberis (candytuft)
Primula (evening primrose)
Polemonium
Phlox nivalis (trailing phlox)
Silene
Thymus (thyme)
Helianthemum (sunrose)
Saponaria (soapwort)
Santolina (lavendercotton)
Lithospermum (gromwell)
Nierembergia (cupflower)
Potentilla (cinquefoil)
Scutellaria (skullcap)
Tradescantia (spiderwort)
Leontopodium (edelweiss)
Polygonum reynowtria
Centaurea
Gypsophila

Eupatorium
Achillea (yarrow)
Baptisia (wild indigo)
Stokesia

Rock Garden Plants For Shady Places:

Coralbells
Violets and violas
Ferns of various kinds
Lily-of-the-valley
Forgetmenots
Primula (English primrose)
Polemonium
Campanula
Dwarf iris
Vinca

Thalictrum (meadowrue)
Dwarf bleedingheart
Funkia or *Hosta* (wax plant)
Helleborus (Hellebore)
Monarda (bee balm)
Mertensia (bluebells)
Saxifrage
Valerian
Lavender

**Rock Garden Plants For
Especially Hot Places:**

Artemisia Silver Mound
Festuca glauca (an ornamental grass)
Nepeta mussini
Sedum-Sempervivums (houseleek)

M. WALTER PESMAN, F.R.H.S.

In a recent letter from the Royal Horticultural Society with headquarters at Vincent Square, London S.W. the chairman of our Editorial Committee was advised of his election as a Fellow of The Royal Horticultural Society.

Its Wisley Gardens, acquired in 1904 the centenary year of its foundation, now have an area of 306 acres, including the National Fruit Trials (45 acres), the Vegetable Trials (5 acres), and farm and woodland (140 acres).

They are located about 25 miles southwest of London, on the Portsmouth road north of Guildford.

Recently the Society built a hostel to accommodate thirty-six student gardeners who will undergo an intensive two-year course of horticultural instruction under the supervision of the Society's laboratory and garden staff.

“LOVE was the inventor, and is still the maintainer, of every noble science. It is chiefly that which hath made my flowers and trees to flourish, and hath brought me to the knowledge I now have in plants and plantings for indeed it is impossible for any man to have any considerable collection of noble plants to prosper, unless he love them.”

—John Rea, 1665

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THE ROYAL BOTANIC GARDENS AT KEW

They Have Two Hundred Years' Start on Us

By M. WALTER PESMAN

TWO hundred years ago, in 1759, nine acres of ground at Kew, on the Thames west of London, were laid out as a "physick" or "exotick" garden. We would now call it a botanic garden.

These Royal Botanic Gardens now contain 300 acres; they are, without doubt, the best known botanic gardens in the world.

Whether we in Denver can achieve as wonderful a record in the next two hundred years remains to be seen. We might as well hitch our automobile to a rocket and hope for the best. We have the opportunity of doing something outstanding in and for the arid regions of the world.

Today the Royal Botanic Gardens at Kew are a scientific institution for the study of plants, with special reference to their classification and naming.

There are four departments, as follows:

1. The largest collection of dried plant specimens in the world, a herbarium of over six million, and a botanical library of 55,000 volumes. Both are considered source material for botanists everywhere.

2. Jodrell Laboratory concerns itself with microscopical investigation into plant structure, both in the classification of plants and their life functions (plant physiology).

3. Plant products are stored, studied, and displayed for public use in the three museums of Economic

Botany. Kew has been instrumental in introducing Cinchona, the source of quinine, from South America to India, and rubber from Brazil to Malaya. At this time, disease-free bananas and cocoa plants are shipped from Kew to agricultural stations throughout the world.

4. The gardens proper are open to the public at a very small admission fee. They form one of the favorite pleasure grounds for the London population, since they can easily be reached by subway, steamer, or bus.

The terrain is flat, but a number of elevations and depressions have been made artificially, as were the large lake and the smaller pond between the Palm House and Museum I.

For the most part, trees and shrubs are arranged according to plant families. Much is made of bold plantings of a single genus. "Come down to Kew in lilac time, in lilac time, in lilac time, . . . it isn't far from London" the poem goes. In earlier spring, drifts of daffodils and crocus and groups of Japanese cherries are featured.

Later come the crabapples. "Rhododendron Dell" is a special attraction, as is the azalea display. Iris and rose gardens are famous all over the world. Great sheets of blue-bells carpet the woodland. Rock gardens, herbaceous gardens, and water gardens are added features.

Conifers are less happy in Kew on account of atmospheric pollution. The

soil is naturally poor and shallow, overlying river gravel. All this demonstrates the need of good gardening. For many years Kew has been the training ground for excellent gardeners. (Denver, take notice!)

What struck me as a curious note of internationalism is the conspicuous location of the Pagoda, 165 feet high, constructed 1761-62 at the time when Chinese landscape gardening was "the rage" in England. Other notable struc-

tures are the Japanese Gateway, an exact copy of the gate of the great Buddhist temple of Nishi Hongwanji; the huge Palm House for tropical trees and plants; the Australian House, a recent addition; the flagpole of Douglasfir from Vancouver, said to be the tallest in the world, 215 feet in height and weighing 18½ tons.

Denver will have to work hard and fast to equal the record of Kew Gardens in the two hundred years to come.

CARE TO SMOKE SOME PETUNIA?

Well, that's not an impossible statement, for petunias and tobacco are of the same family, and the word petunia comes from the name the South American natives used to designate tobacco. So somehow the botanists got things a bit twisted up in naming the plants and the ornamental one got called petunia (which meant tobacco) and the one people smoke got called by an old Spanish word "tabaco" which referred to the manner in which the leaves were rolled to be smoked.



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WATER IN

By JULIA JAMES

Rocky Mountain Association

Photos



Upper Left: A French lavabo fountain with a central lead figure of a dolphin emerging from a grey stucco frame, set against a brick wall. Water is dripping into two lead basins on either side.

Upper Right: In another part of the garden, a cotta bacchus raises his cup in a shell where birds may bathe, and Tammy junipers are planted against a stone retaining wall.

Lower Left: The lead figure of a jet of water for a bird bath, set against a wall of stones of different hues. A garden path, with white geraniums, leads to the setting in the garden of Mr. and Mrs. Cheesman.

Middle: Another view of the same garden path, showing the white geraniums and the lead figure of a jet of water for a bird bath.

Lower Right: Same fountain as in the upper right, showing the lead figure of a jet of water for a bird bath, set against a wall of stones of different hues. A garden path, with white geraniums, leads to the setting in the garden of Mr. and Mrs. Cheesman.



THE GARDEN

VERSTEIN,
Landscape Architects
Gavan

thin makes pleasant splashes
den of Mr. and Mrs. Thomas
are attached to a niche of
rose of Sharon shrubs grow

Campbell garden a young terra
cotta (Vinca minor) surrounds
Glistening grey blue spruce
background behind a flag-

girl, with a frog supplying the
pedestal surrounded by river
stone slate wall in the back-
ground the corner beds, finish the
design Dines.

ing.

in a distance. A dramatically
and adds special interest. The
plants behind the wall.

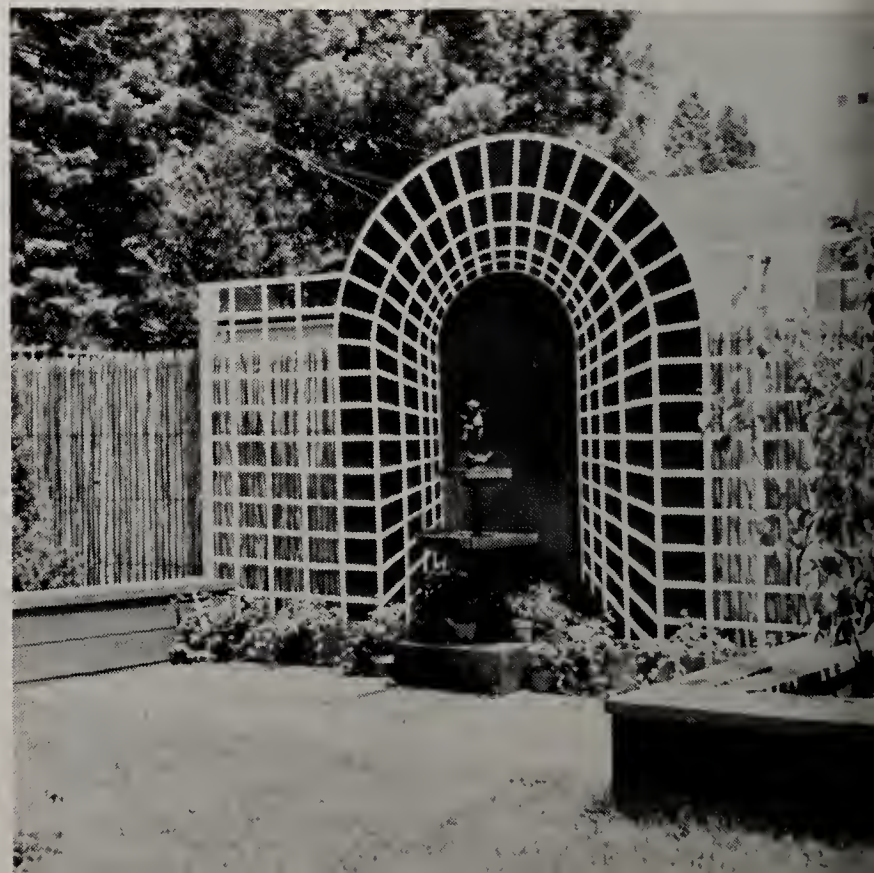
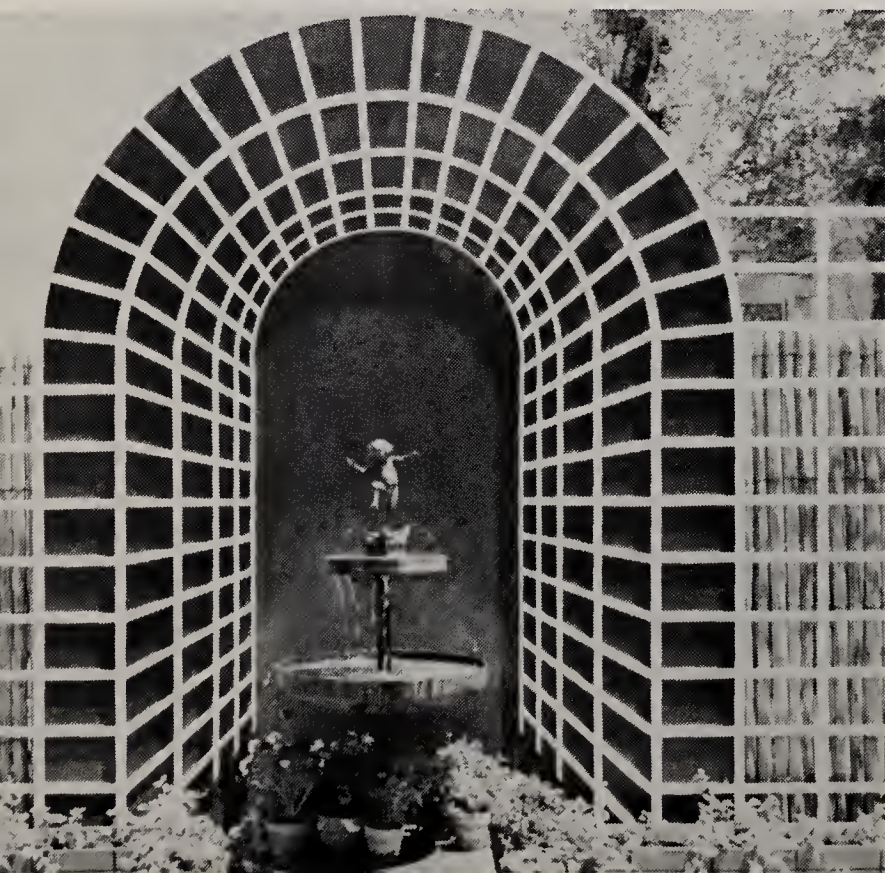




Upper Left: Under a covered patio, water drips over flagstone ledges into a crescent shaped pool in the garden of Mrs. Donald Bent. *Euonymus radicans vegetus* climbs over the fountain arch and dark-leaved Eleyi flowering crabs are on either side of the setting. The formally cut flagstone is pink. Cream stucco walls are the background. *Euonymus patens* (near lower right corner) serves as a ground cover.

Upper Right: A beautiful old Italian water basin of carved marble with an iron dipping bucket brought from Florence enhances the garden of Mr. and Mrs. Montgomery Dorsey. The setting is a perennial bed in front of a pinion pine.

Lower Left and Right: A small bronze dancing child jumps to keep her feet from getting wet from the water jets of three small frogs as they spill musically into two lead basins in the garden of Mr. and Mrs. Hamilton S. Gregg. The false perspective of the wood treillage backdrop gives the illusion of distance in limited space. Grape stake fencing screens the alley and potted flowering plants are grouped artistically around the base of the fountain.





Upper Left: The old world skill of an Italian craftsman carved this fountain out of Colorado travertine for the garden of Mrs. John Kerr. Boston ivy covers a brick wall and *Cimicifuga simplex* (snake-root) flanks the fountain.

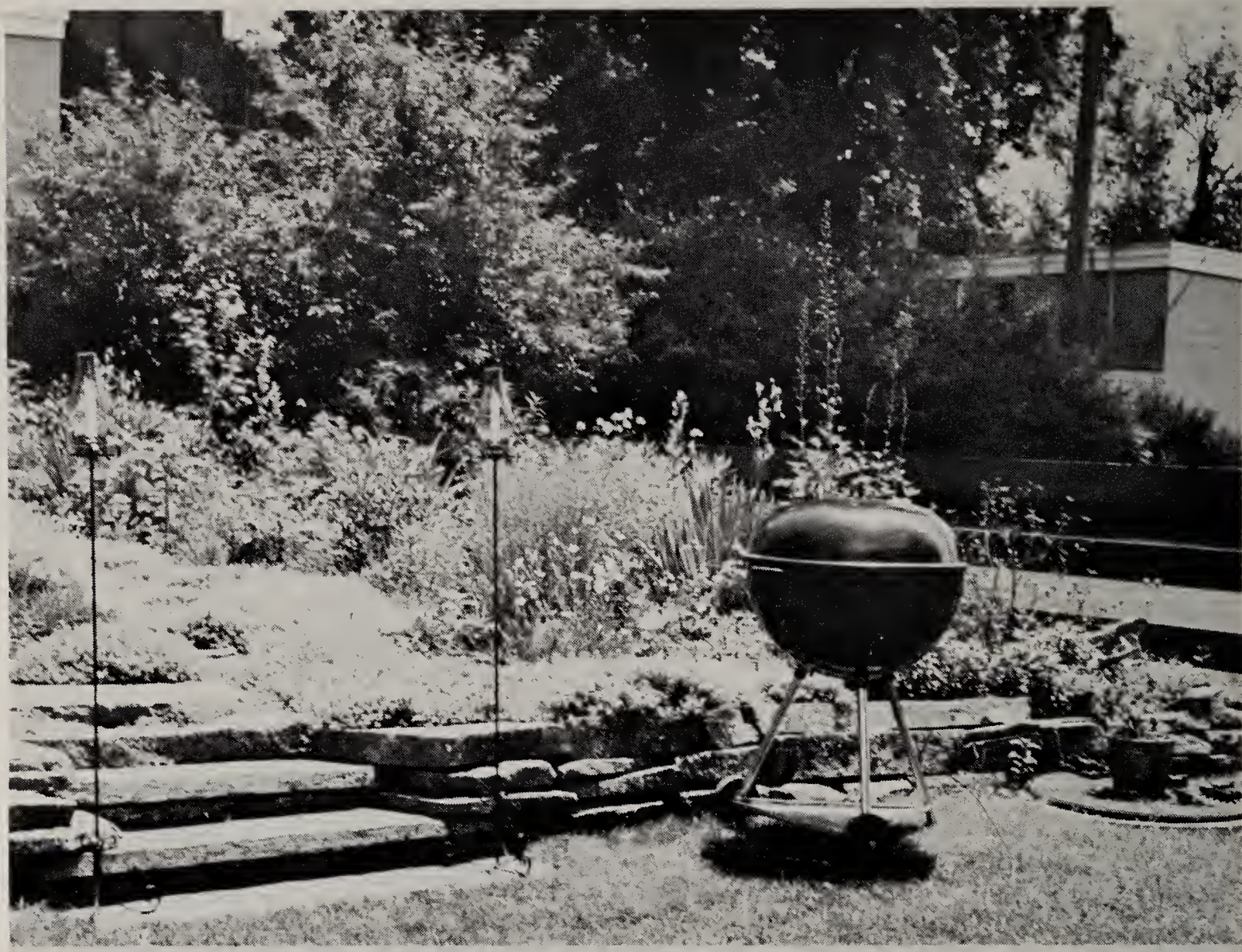


Upper Right: A Lyons sandstone wall and patio in the garden of Mr. and Mrs. Richard Campbell has a stone ledge over which water drips into a pool for small toes to be pleasantly cooled. Plantings of evergreens top the wall around the ledge.

Lower Left: Birds should be intrigued with this charming, gaily colored pelican presiding over their 15 inch pool. The sculpture is by Jock Benedict, one of Colorado's early, outstanding architects. Two blue green rocks, naturally colored by their copper ore content, are nicely in scale with this ground-level bird bath. Dwarf iris leaves surround the pelican. A pinyon pine is in the upper left hand corner.

Lower Right: A cast stone basin on a flagstone patio holds the graceful flight of a bronze bird cast by the old Cellini method. Booger was the artist. *Arbor vitae thuja occidentalis pyramadalis* is in the background with wild plum mixed in.





Near-by herb bed is fragrant as well as useful for barbecue seasoning in the garden of Mr. and Mrs. Ned Marshall.

Herbs And Barbecuing Are Gourmet Partners

By MRS. HAYES W. NEIL

Member, Herb Society of America

COOKING has always been one of America's favorite pastimes, and barbecue cooking certainly seems to be favored in and around Denver. Any tourist driving through the suburbs on summer weekends can testify to this fact as the mellow aroma of barbecuing greets his nostrils.

This new outdoor living has inspired many of us to look around our gardens for a place to put a few herbs to add zest to barbecue seasoning.

For a sauce deliciously different herbs are the answer. Picked fresh they add tempting smell and flavor to food and are easy to grow in any kind of soil. Why not circle your barbecue spot with low-walled herb beds, or

plant them in a continuation of the stone work of the grill itself? If you're not sure what kinds you want, place some in wooden tubs or large clay flower pots in easy reach for sampling until a more permanent spot is wanted.

The enticing aroma may tempt each family member or guest to try his hand at barbecue seasoning. But don't let your family become too eager or you will need to restrain them. Season only one or two dishes with herbs at any one meal, for part of the charm of herb cookery is the flavor contrast it provides. Use only a pinch of the dried herb or a small amount of the fresh leaf. The flavor should be subtle

and should never overpower the taste of the food itself.

Here are some favorite recipes you may not have tried before:

Appetizers

Hollow out tiny pickled beets and fill them with chopped chives and chopped fresh tarragon.

Fill topping onions with cream cheese. Then slice them crosswise for hors d'oeuvres.

Cold Dilled Carrots

Scrape 12 small carrots and cut them into quarters. Simmer in 1½ cup dill pickle juice until tender. Chill overnight in the juice. At serving time drain and sprinkle with fresh dill and chopped chives.

Hot Potato Salad

Boil new potatoes in the skins, peel

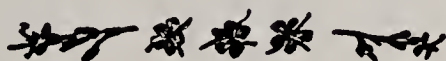
and slice while hot. Coat lavishly with sour cream and sprinkle with chopped chives, dill, and parsley. Serve in lettuce leaves.

Chicken Barbecue Sauce

½ cup vegetable oil
½ cup water
½ cup herb vinegar
¼ cup soy sauce
1 tablespoon paprika
1 teaspoon fresh rosemary
(slightly less if dried)
2 cloves garlic (crushed)
cracked pepper

Use this to baste the chickens while they are rotating on a spit. This is sufficient for four chickens.

Try a new herb flavor. Experiment. Have fun. Good appetite and good eating!



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DOWNTOWN'S BARREN "WALL STREET" GREEN WITH TREES

Flowers Bloom in Hanging Baskets, Too

By VIVIAN C. ANDERSON

Mrs. Anderson is western editor for BOOT and SHOE, one of the oldest trade publications in the business. She has written articles for leading magazines.

THE green stuff on 17th Street—Denver's Wall Street—is ordinarily kept behind barred windows in cold stone, marble and brick structures, but the picture has changed. Today, there is green stuff of another variety lining this busy thoroughfare of stone and mortar — trees planted in tubs and hanging flower baskets.

Property owners and bankers beat the 16th Street merchants to the punch when David M. Abbott, Director of Parks, and the Downtown Denver Improvement Association conceived the idea of sidewalk street plantings a year ago. The project first was begun early in 1958 as a test limited to one block to suggest a basis for Centennial action. The block was between Welton and Glenarm Streets where the Denver Club Building is located. Immediately, various other property-owners demanded to know why they couldn't participate also. In a matter of days, the project had grown and the trees and flower baskets were extended from the corner of Glenarm Street to the alley between Curtis and Champa Streets on both sides of 17th Street. Fourteen property owners participated, assessing themselves for installation and maintenance of 36 tubs and 46 flower baskets.

"A dramatic and successful demonstration of civic area improvement has been achieved this year through the co-operative efforts of the 17th Street property-owners, through the Downtown Denver Improvement Association and your City Government, through its Department of Parks and Recreation," wrote Mr. Abbott last fall to the

D.D.I.A. "This is the so-called '17th St. Reforestation Project,' an outstanding and unique effort in the U.S.A. to make an attractive and pleasant city center."

This year, the Downtown Denver Improvement Association sponsored the project but again the cost is charged by the association against the property-owners on the basis of the number of trees and baskets each desired. The "reforestation" covers the same area, but has added one-half block on Champa between 17th and 18th Sts. and between 16th & 17th Sts. and one-half block on Stout Street between 17th and 18th Sts., with 16 property-owners participating. Flower baskets mounted on light poles now total 169, overflowing with *Vinca minor*, honeysuckle, vari-colored petunias, *sprengeri* fern, *Dracaena*, blue and white lobelia, jacaranda, various coleus plants and iresine. The Guaranty Bank Building has doubled the number of its trees in its two half-blocks fronting 17th and Stout Streets. Evergreens are used, the owners having been offered *canaert* (Silver Radiance) and *scopulorum* in the *Juniperus virginiana* range.

An example of the enthusiasm of building owners and banking houses is seen in an excerpt from a letter by John C. Mitchell, vice-president of Denver United States National Bank, to the Downtown Denver Improvement Association: "As I indicated to Dave Abbott several months ago, we believe the program to be a definite addition to the Downtown area and we are



The new look along Denver's busy "Wall Street" (17th Street) shows tubbed evergreens and hanging baskets. Maintained by merchants, they relieve the monotony of brick and stone, imparting a cool freshness in an asphalt jungle.

happy that you are going ahead with it another year."

The trees and tubs are more attractive this year. Round redwood tubs

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were reduced in height; some were replaced with square, tapered tubs. In some, flowers have been planted with the trees to improve the appearance and to discourage dropping of litter in the tubs. Last year, since the project had been planned too late, the tree stock was limited, all the trees were too small, and some failed to thrive. (One banker said his employees became so enthusiastic over trees on 17th Street that over-watering resulted and a rigid system of care and maintenance had to be enforced.)

Denver is one of only a few cities in the country with "street reforestation" projects. Los Angeles, since 1955, has carried out such a program, using *Ficus retusa* and *Ficus nitida* in its downtown sidewalk planting program and flowering trees in open plazas and malls. This spring, under Forward San Jose (Calif.) Downtown Association auspices, with the city in charge of the watering, 400 trees in redwood tubs were "planted" along its central busi-

ness and retail streets. The City of Detroit placed such a plan in operation, backed by the *Detroit Free Press*, which last fall published an illustrated story on Denver's 17th Street reforestation project. In the Detroit Central Business District Association annual report, it was said: "Sparked by the tremendous interest in the boxed trees placed on Woodward Avenue by the joint efforts of Central Business District Association and Department of Parks and Recreation during the Fall Fashion Festival, an ambitious program to enlarge this type of downtown beautification was worked out in late 1958 and will be put into effect in 1959."

Add Chicago's State Street; Cleveland, Ohio; Oakland, Calif.; and Minneapolis, Minn.

It is hoped by next year that the downtown Denver reforestation project, developed by those men accustomed to green stuff on 17th Street, will spread to Denver's principal retail district on 16th Street.

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DIAMOND JUBILEE OF THE COLORADO STATE FORESTRY ASSOCIATION

By FRED R. JOHNSON

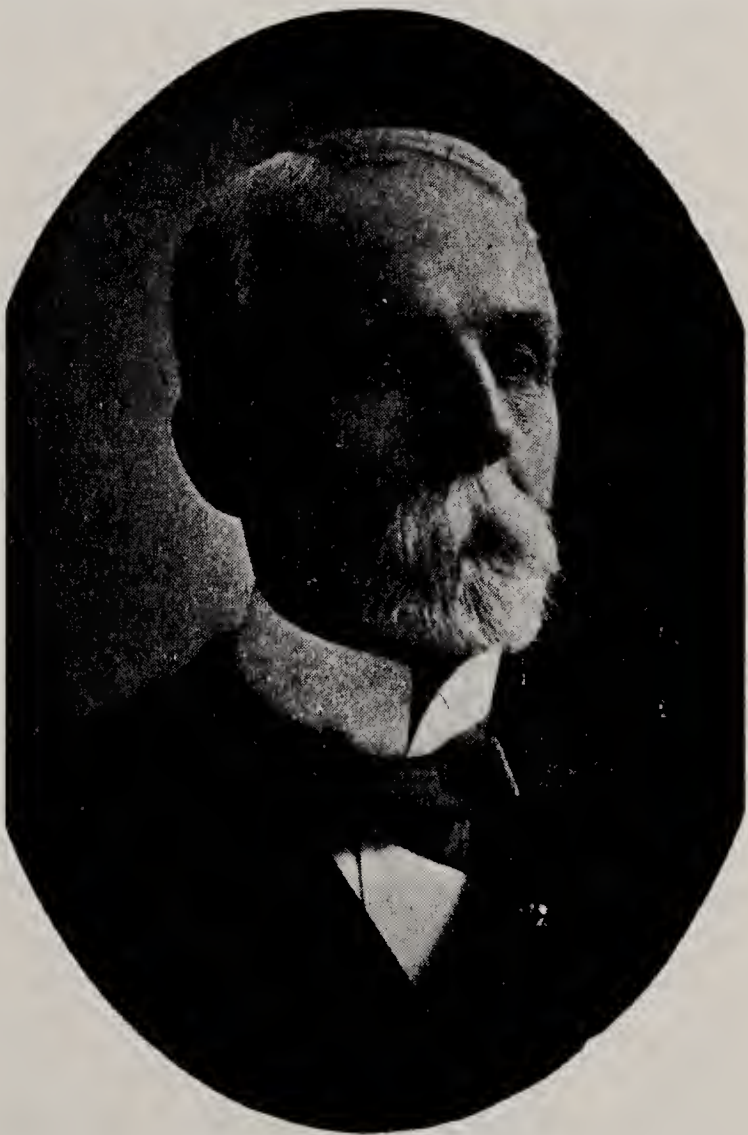
In the last year our membership has grown faster and has more members than ever before in its history. We therefore felt the following article on the growing pains leading to our present Association would be not only appropriate but thought it would be of interest to new members, many of whom are newcomers to Colorado or the Rocky Mountain region. And we hope it will be of particular, nostalgic interest to the "old guard" who have worked so hard to make the Colorado Forestry and Horticulture Association a leader in conservation and horticultural affairs. Please note that many of the names mentioned were from all over the state. Distance from Denver headquarters did not curtail active, state-wide participation in its affairs.

THIS centennial year of the Rush to the Rockies marks also the 75th anniversary of the Colorado State Forestry Association which was started at a meeting held at the State House, November 19, 1884. The old records of this Association reveal the important part this group played in the protection of vast areas of forest land in the state.

Col. Edward T. Ensign of Colorado Springs was the first president, William E. Pabor of Fruita was the first secretary, and William N. Byers, founder of the Rocky Mountain News, was on the first Board of Managers.

At this meeting the Association urged the General Assembly of the state to adopt a forestry act which, among other items, provided for establishing the office of State Commissioner of Forestry. The resolution also asked Congress to adopt legislation to protect the forests of the public domain from destruction.

The following year the General Assembly established the position of Commissioner of Forestry, but provided no funds for carrying out the duties. Col. Ensign, appointed to the post, served without pay for two years. In 1887 the legislature made a small appropriation for the maintenance of the office and for a small salary for the Commissioner. However, in 1889 the General Assembly discontinued this office and turned the care of forests over



EDGAR T. ENSIGN
COLORADO SPRINGS

**The Man Who Has Done More Hard Work
For Forestry Than We All**

The above photo and caption appeared on a
1911 program pamphlet of the C.F.A.

to the Game and Fish Commissioner. As a result, for years after that action nothing was done at the state level to protect the forests.

Undaunted, the Association, working with the American Forestry Association, was largely responsible (according to newspaper and other accounts of that day) for the passage of an act approved March 3, 1891 giving the President of the United States power to establish forest reserves in the public domain.

On March 30, 1891 President Benjamin Harrison established the first forest reserve—the Yellowstone Timberland Reserve in Wyoming. On October 16, 1891 President Harrison signed a proclamation establishing the White River Plateau Timberland Reserve in western Colorado.

No plan for the operation of these reserves was included in the law. At the January 1891 meeting of the Association, Col. Ensign reported that “forest fires had been more destructive in 1889 and 1890 than at any time since 1879 due to drought, the destructive cuttings by lumbermen and charcoal burners, and the fraudulent pre-emption of federal lands.” At this meeting it was recommended that “the federal government effect a comprehensive and effective forest administration for the public timberland of the entire mountain region.”

The Association, aided by other groups, continued pounding away, and in 1897 Congress passed an act providing for the organization and management of the public forests. Col. Ensign reported that five of the twelve forest reserves, established by the President of the United States, were in Colorado.

Administration of the forest reserves was started within the next year. We have an interest in this since, so far as is known, the first forest ranger in the United States—William R. Kreutzer, appointed August 8, 1898—was

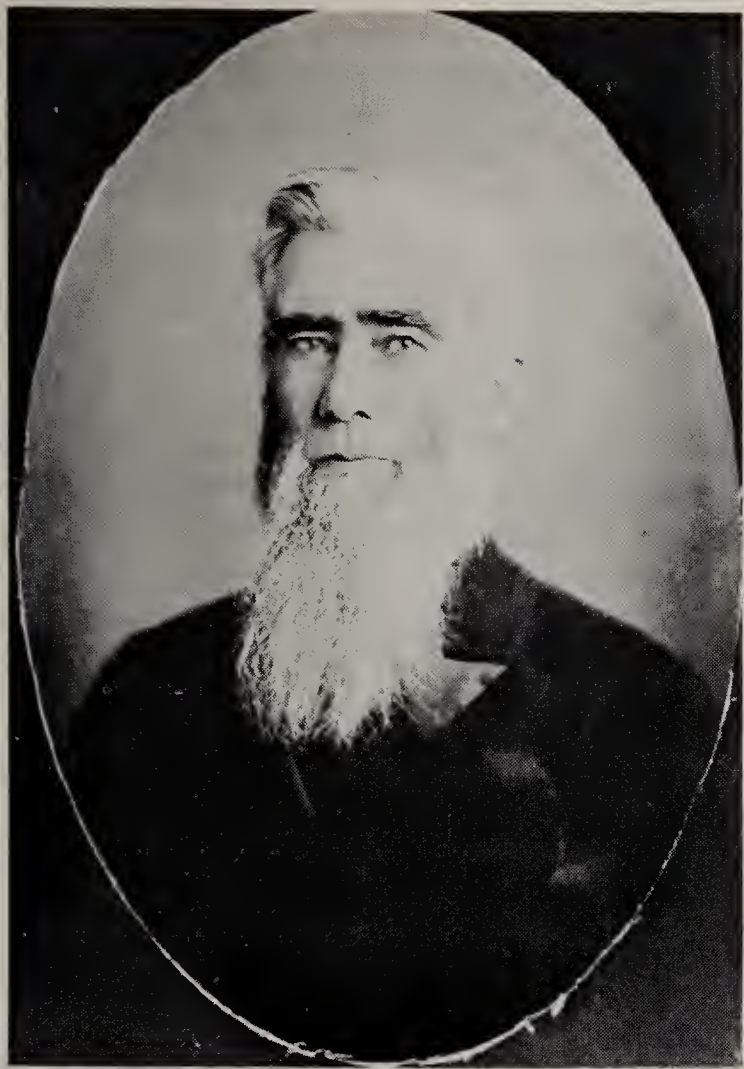
a Coloradan. His colorful history is given in Len Shoemaker's book, “Saga of a Forest Ranger,” published in 1958.

But to go back a bit. In 1888 the State Forestry Association consolidated with the State Horticultural Society which was formed in 1880. However, in 1891 a separation was agreed upon because, the minutes stated, “the action has not been productive of the desired results, in fact, it has been to a degree prejudicial to the interests of both.” From the old reports it appears that the Horticultural Society of that period was mainly interested in fruit trees, berries, and similar crops.

Eventually, it was another organization—the Denver Society of Ornamental Horticulture founded in 1916—with which the State Forestry Association merged in 1944. The Denver Society for Ornamental Horticulture published a monthly leaflet “Garden Hints” edited by S. R. DeBoer and sponsored flower shows annually in the City Auditorium. Finally in 1925 it too fell by the wayside, and our present Colorado Forestry & Horticulture Association was formed to include all groups interested in forestry, conservation, horticulture, gardening, and landscaping.

But let's trace the old State Forestry Association through the years. Its records contain many interesting items. William N. Byers was active in the Association from the beginning. He was president for many years until his death in 1903. A resolution, adopted by the Association after his death, stated that as a private citizen he demonstrated his love for trees and forests by planting 35 different kinds of trees foreign to the Rocky Mountains on the grounds of his home.

The Reverend W. G. M. Stone succeeded Mr. Byers as president and continued in that capacity until shortly before his death. Of strong character, he was a leader and deeply interested



Reverend W. G. M. Stone, an early leader
in Association affairs.

in trees and forests, leaving a valuable manuscript for a proposed history of the forestry movement in Colorado. The Association has this manuscript.

A lot was accomplished under the guidance of Mr. Stone and with the assistance of people like Dr. B. O. Aylesworth, president of Colorado State Agriculture College; Professor L. G. Carpenter, and others of the old Colorado A & M faculty; Mrs. Helen L. Grenfell, superintendent of Public Instruction; Professor Ellsworth Bethel; General Irving Hale; Adolf Coors; Dall Dewese of Canon City; General William J. Palmer of Colorado Springs; Walter Cheesman; Charles R. Root; John H. Gabriel; Miss Anne Evans; Henry M. Porter; A. Lincoln Fellows; Jacob Filius; Charles L. and William N. Hover; and many other prominent citizens mentioned in the records.

It circulated petitions in 1903 and 1904 urging Congress to extend the boundaries of the forest reserves to embrace the headwaters of all streams in the Rocky Mountain Region. These were sent to Washington with several thousand signatures.

In preparation for a Public Lands Convention in 1907, the State Forestry Association adopted a platform of principles relating to a government forest policy and vigorously opposed proposals to turn over the public domain and the national forests to the states.

In this connection former Governor Charles S. Thomas gave the closing address at the annual meeting on January 22, 1908 entitled *The Report of the Forester, Dec. 1, 1950*. This address appeared in full in the Denver Republican of January 26, 1908. The Republican had this to say: "This brilliant address by ex-Governor Thomas shows a glimpse of the future. It is an application of Bellamy's 'Looking Backward' idea to the timber growth of the U.S. It may place the former executive of the state in a role like that of Harriet Beecher Stowe in sounding a clarion call for abolition of slavery in the south and rousing people into full realization of what wholesale tree destruction holds for the country half a century ahead."*

An interesting resolution adopted at the annual meeting January 24, 1914 commends the City Park Board for its efforts in beautifying the city's parks and boulevards and in initiating steps looking towards the establishment of an arboretum in the city park. In fact, there are frequent references in the records to the need for a botanic garden in Denver. One of the most constructive resolutions was offered by Mrs. E. R. Kalmbach at a meeting on

*Mr. Thomas' descendants, Mrs. Clark Blickensderfer, wife of our treasurer and others in the family, will be proud to read the praise given to this "notable contribution to the forestry literature of Colorado."

May 24, 1941 and unanimously approved as follows: RESOLVED. That the Colorado State Forestry Association, in session assembled May 24, 1941, endorse and urge the establishment of a botanical garden within and adjacent to the city of Denver, where the various tree, shrub and herb species offering possibilities for this climate, may be tested. Such a botanical garden need not be in one large area, but may be in small tracts, located in the various zones, extending from the typical eastern prairie zone to the alpine timberline zone. The Colorado State Forestry Association is not interested primarily in a "show place" within the Denver City limits, but in the practical demonstration of the adaptability of tree, shrub, and herb species to the various natural zones. Such demonstration tracts may be located on city, state, or federally owned lands, through arrangements made with the proper agencies, and such available lands should be assigned to botanical purposes at any time opportunity is presented."

Professor W. J. Morrell, dean of the Forestry Department, Colorado A & M, succeeded Mr. Stone as president in 1916, and Alvin T. Steinel, also of Colorado A & M, was secretary.

Lou D. Sweet, prominent agriculturist and potato grower, was elected president in 1921 with Perry L. Clarke, Denver school teacher as secretary. Following Mr. Sweet's death, S. R. DeBoer was the next president. Mr. DeBoer presented a list of objectives to

the Association many of which have been accomplished.

Mr. DeBoer resigned at the close of 1934 because of the pressure of his own work.

The records show that the Association for many years advocated the proper cutting and tagging of Christmas trees. For example in 1893 the Association appointed a committee "to secure legislation preventing waste of your trees which are needlessly sacrificed during the Christmas season." Again during the 1930's this was an important project.

In 1935 Perry L. Clarke, faithful secretary of the organization for 16 years, died. He was another stalwart who kept things together because of his love for, and interest in, trees and forests. He prepared and issued circulars on Oyster Shell Scale, European Elm Scale, and "Noted and Historic Trees Around Denver."

Mr. A. Lincoln Fellows, who had been active in the Association in the early part of the century, took the presidency in 1937. The record shows an interesting exchange of correspondence between Mr. Fellows and Congressman H. M. Hogg. Apparently the congressman was somewhat irritated at Mr. Fellows's advocacy of more forest reserves for he said in a letter written March 9, 1904: "I will grant you that these large forest reserves thoroughly established with a delightfully convenient game law will make splendid hunting preserves for a lot of goggle-eyed and bandy-legged dudes

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from the East, and will afford a delightful retreat for a lot of sad-eyed and absent-minded professors and bugologists.

"I have the greatest respect for the learned gentlemen who are so certain that we can get water from trees for the irrigation of our arid lands, but I do not join with them in the sad refrain that inside of thirty years there won't be any water in Colorado unless we stop all industry and stand guard around the boundaries of these forest reserves."

A delightful incident occurred at the annual meeting of the Association on December 6, 1938. Mrs. Bradish Morse was in charge of arrangements. The day preceding the meeting it was announced that Mrs. Morse had been called to New York to meet her daughters. A large bouquet of roses was delivered to the banquet room at the Oxford Hotel with the compliments of Mrs. Morse. President Fellows announced the gift and also announced the wedding that same day of Mrs. Morse to Mr. George H. Garrey!

Next president was M. Walter Pesman who guided the activities of the old Association and was instrumental

in its reorganization as the Colorado Forestry and Horticulture Association.

In 1944 Mrs. John Evans was elected president of the new organization. The consolidation with the Denver Society of Ornamental Horticulture required a new constitution and by-laws, a statement of objectives, and other planning, which were outlined in the first issue of *The Green Thumb* in February 1944. Walter directed this with the able assistance of George W. Kelly, Robert E. More, Irwin McCrary, John H. Gabriel, Walter J. Ise, Mrs. George H. Garrey, Mrs. Clarence M. Richards, and others.

M. Walter Pesman also prepared articles on "Trees of Boulder, Colorado" and "Almost Anything Can Be Made Out of Wood," which the old Association had issued as leaflets in 1942. In 1933 S. R. DeBoer and Fred R. Johnson were elected to the Board of Trustees and in 1936 so were Mrs. Bradish Morse and M. Walter Pesman. Mrs. Evans joined them in 1941.

It has been a pleasure to do the research for this history. There is enough material in these old files to make a number of interesting articles. I hope others will have a try at it.



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GARDEN BRIEFS

By MRS. EDMUND WALLACE

Mrs. Henry Gay, president of the Southern Hills Garden Club, has been selected for membership on the Educational Committee of the Botanic Gardens House.

The State Federation of Garden Clubs is separated into five districts according to location in the state. Four of them are holding their annual meetings in June. They are:

Southwestern District—June 11—Durango, Colo.

Northern District—June 15—Brighton, Colo.

Southern District—June 17—Manitou Springs, Colo.

Central District—June 30—Denver, Colo.

Mrs. Martin Rhodes, State Ways and Means chairman, reports a successful luncheon at the Denver Dry tea room April 30. Her excellent committee included Mrs. J. M. Staker, Ticket Sales; Mrs. Vivian Christensen and Mrs. John Scott, Publicity; Mrs. Ed H. Honnen, Mrs. W. T. Shepherd and Mr. Herbert Gundell, Planning Committee; Mrs. G. A. Seastone, Table Settings; Mrs. John Sobiella, White Elephants. The hostesses carried out the centennial theme by wearing "Rush to the Rockies" dresses, and even the Master of Ceremonies, Mr. Gundell wore appropriate early western attire. The proceeds from this effort will total about four hundred and fifty dollars. Congratulations to all of you who worked long and hard for this result.

Led by Mrs. Ronald Wilson, the mothers of members in the junior club "Grow and Show" (an affiliate of the 4-H Club of Englewood) have reversed the usual process and from the junior group formed a new *senior* garden club, the Southwest Englewood Garden Club, which was recently voted into the State Federation of Garden Clubs. Because of this unique twist, it will be written up in the "National Gardener," bulletin of the National Council of State Garden Clubs, Inc.

The State Board meeting held in June was especially rewarding because of the unveiling of a portrait of State President Mrs. John Nickels. This portrait will be loaned to the Botanic Gardens House for two years. It has been painted by Irene Rodgers, a member of the Suburban Garden Club.

J. Sterling Morton speaking on the importance of agriculture and the dignity of rural life said: "Manufacture and skill in the various arts, may, and will undoubtedly, aid us in our pursuit of a glorious and independent opulence, but our great trust and strong hope is still hidden in the fertility of our soil and its adaptation to general cultivation."

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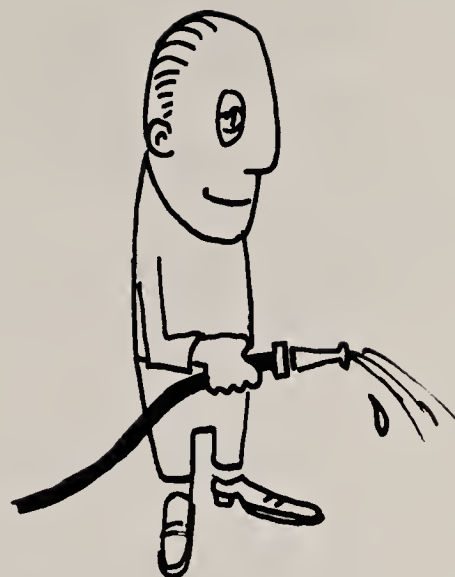
WITH most of the heavy work completed in the garden, it's now time to enjoy the fruits of your labors. July is always a good time for gay colored blooms of annuals and perennials. By developing a few routine gardening practices this month you will be able to have a well-maintained yard and still have time for relaxation.

First the lawn. Barring unusual weekly showers, proper watering is probably the most important consideration. There are no hard and fast rules for watering. However, it has been well established that an inch of moisture per week is sufficient to maintain good turf on clay soils. This can be applied in one or two good soakings a week. If you are in doubt about watering, dig into the soil 6 or 8 inches deep to find out how moist it is, then regulate your watering accordingly. You'll find south slopes and edges along walks and drives need special attention.

Next to watering is mowing. Experimental results over the past ten years indicate proper cutting height is essential to good lawn growth. For bluegrass, a height of 1½ to 2 inches is necessary. Perhaps even 2½ inches in hot weather. Merion bluegrass can be cut a little shorter—1¼ to 1¾ inches. Mow every 4-6 days and catch your clippings every other time. Because of last year's infestation of lawn fungus, this is a modification of the formerly recommended practice of leaving on all clippings.

Spot treatment now of weeds such as dandelion and plantain will do a lot to cut down on next year's weed population. It's also time for the second application of di-sodium methylarsenate or aminemethylarsenate for crab grass control.

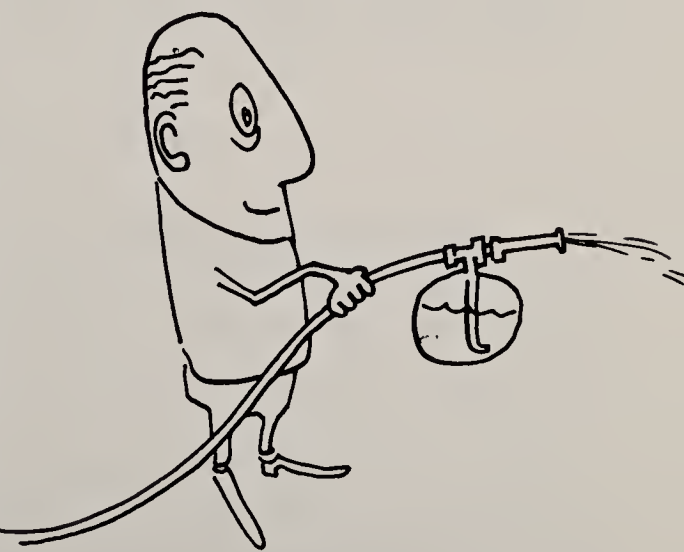
Now for maintenance of shrubs, trees, and flowers. This is the most active period for insect pests. All plants in the yard should be checked each week for signs of damage. Note particularly any discolored foliage or foliage with holes in it. The number one and two pests, respectively, are aphids and spider mites. Both are tiny and require a thorough examination of the leaves to detect their presence. A good hand lense makes this task much easier. Both insects are quite detrimental to roses and evergreens but occur on practically all plants. Most multi-purpose sprays or dusts will control them.



Watering



Mowing



Spraying



Aphids



Grasshoppers



Red Spiders or Spidermites

Grasshoppers are apt to be the number three pest. Heptachlor, chlordane, or dieldrin are good "hopper stoppers." Blister beetles on locust trees, snout beetles on roses, and pear slugs on plums and cherries will put in their appearance soon. Again, a good multi-purpose spray will handle the problem.

Hand spray equipment, such as hose sprayers, are adequate for shrubs and flowers, but are not forceful enough for large trees. If you have large trees, it is best to call in a competent arborist who has the power equipment to handle the job.

Pruning at this time should be confined to keeping shrubs, hedges and evergreens shaped. Clip off the spent blooms in your garden. This encourages better blooming and keeps your garden tidy.

If you still need plants for fill-ins or replacements, you'll find that most of the nurseries and garden shops have a very good selection of container-grown stock that can be planted now.

Speaking of planting, iris can be divided and transplanted the latter part of this month. And if you made notes on the newer varieties when they were in bloom, these can be purchased and planted too.

But enough of chores in your own garden. Remember July 9 and 10 are the Centennial Garden Tour days. Take advantage of these tours to see how the other fellow does it. Jot down good blooming flowers and new ideas for incorporating in your yard.—Pat.

WOLF! WOLF!

The beautiful garden flower called lupine derives its name from the Latin word for wolf. This was because in the days that plants were being assigned botanical names there was much to be learned about soil chemistry, and the botanists assumed that because of the fact that lupines grew in profusion on very poor soil that they were the cause of the soil losing its fertility. In other words, they were supposed to be as voracious as a wolf in eating up plant food. In actual fact, the reverse is more nearly the truth, for badly depleted soil will not support many kinds of plants, and since lupines in common with other legumes are able to fix nitrogen from the air they could grow and thrive without competition where other plants had died out, adding nitrogen and humus and gradually restoring the soil to a fertile state.

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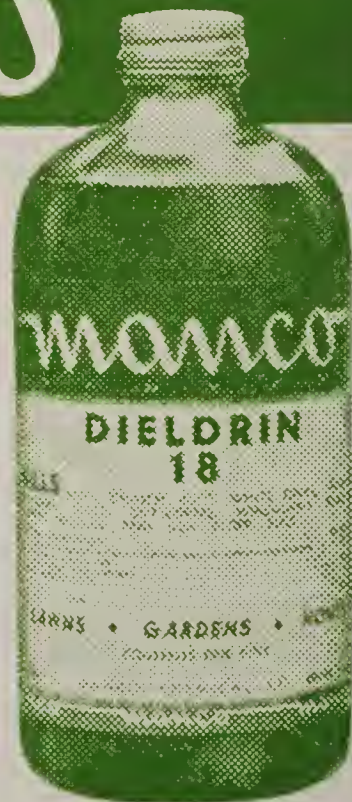
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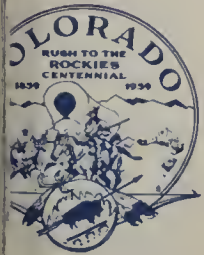
Magazine for Rocky Mountain Gardeners



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MONSTERS IN
CULTIVATION
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GET THE YOUR HOME
WITH LIGHT
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AUGUST

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AUGUST

Vol. 16

No. 7

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Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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The Colorado Forestry and Horticulture Association

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Denver 6, Colorado

Calendar of Events

Floral Art Course: Opportunity School. Every Thursday 9 a.m.-11:30 a.m., 1 p.m.-3:30 p.m., 6:30 p.m.-9:15 p.m. There is no charge except for materials.

The Green Thumb Program—Every Saturday morning on KLZ at 10:15 a.m.

FLOWER SHOWS

August 8—Hearts & Flowers and Fleur de Lis Flower Show, St. Philips and St. James Church, South Lowell Blvd., Denver.

August 8—Alta Vista Flower Show, Masonic Temple, 7212 Ralston Rd., Arvada, Colo.

August 9 — Gladiolus Flower Show, Denver U. S. National Bank, Denver, Colo.

August 11—Morning Glories Flower Show, Jefferson County Fair Grounds Bldg., Lakewood, Colo.

August 12 and 13—Arapahoe County Junior Flower Show, Arapahoe County Fair Grounds, Littleton, Colo.

August 14 and 15—Arapahoe County Adult Flower Show, Arapahoe County Fair Grounds, Littleton, Colo.

August 15—Westminster Flower Show, Westminster High School, 3455 West 72nd Ave., from 2:30 p.m. to 8:00 p.m., Westminster, Colo.

August 18-20—Sterling Garden Club Flower Show of Logan County at Logan County Fair Grounds, Sterling, Colo.

August 20—Ft. Lupton and Hudson Garden Club, Ft. Lupton, Colo.

August 20-22—Longmont Flower Show, Boulder County Fair Grounds, Longmont, Colo.

September 3 — Lakes of Bowmar Flower Show

Fun With Flowers Workshops cancelled for August.

In connection with Colorado's Centennial year the Botany Club is planning a special program for their October meeting. Watch for further announcements in the September issue.

Watch for the Chuck Wagon Round-up picnic coming soon.

BOTANIC GARDENS' HOUSE MEETINGS, 909 YORK ST.

August 10 — Judge's Council, 10:00 a.m. Fertilizer Group, 8:00 p.m.

August 12 — Organic Garden Club, 8:00 p.m.





New Director Appointed For Denver's Botanic Gardens

By FRED R. JOHNSON

Dr. A. C. Hildreth, director of the Cheyenne, Wyoming Horticultural Field Station for 14 years, is the newly appointed director of the Denver Botanic Gardens according to an announcement from the office of the Denver Career Service authority. He took over his new duties at Botanic Garden headquarters, 909 York Street on July 1.

Dr. Hildreth, a national and international authority on horticulture, has been active in the development of horticulture along research and educational lines for many years.

Following his graduation from West Virginia University in 1917, he entered military service in World War I and was discharged on December 31, 1918 with the rank of First Lieutenant in the Field Artillery.

From 1923 to 1927 he was connected with the University of Minnesota as a research fellow and instructor. In 1926 he received his doctorate in horticulture and botany from this institution.

From 1927 to 1930 he was connected with the agricultural experiment station of the University of Maine where his research work was largely concerned with the improvement of the native blueberry.

In 1930 he was called to take over the development of the then new Cheyenne Horticultural Field Station. This station was established by act of

Congress for the purpose of improving high plains and Rocky Mountain horticulture. Located immediately adjacent to the Francis E. Warren Air Force Base, it contains about 2000 acres with a testing arboretum of about 1500 species of woody plants, and testing grounds for orchard fruits, hedges, annuals, and perennials. In the greenhouse, laboratories, and test plots Dr. Hildreth has directed the breeding of superior ornamental and useful plants. One notable example is his work with chrysanthemums for cold climates.

As an emergency war project Dr. Hildreth had charge of a large staff of research scientists who were working on the Guayule rubber plants, and he planned and supervised the building of laboratories, greenhouses, and test



Dr. A. C. Hildreth

plots in California, New Mexico, Arizona, Texas, and Maryland. Concluding this, he returned to the Cheyenne Horticultural Field Station to resume his former duties.

He was then given an assignment by the International Cooperation Administration for the purpose of organizing and directing an experiment station in Afghanistan. This included research work in agronomy, horticulture, livestock, irrigation, and drainage. Dr. Hildreth supervised a staff of American research men and several Afghans who were training for research careers. He also set up an agricultural research program for the Afghanistan Ministry of Agriculture. Upon the completion of this 2¼ year assignment, Dr. Hildreth returned to the Cheyenne Station where, for several months, he has been summarizing his research findings. He retired June 30.

Denver is fortunate in acquiring a man of Dr. Hildreth's extensive experience to develop the new herbaceous

unit between Cheesman Park and Josephine Street. This ground was turned over to the Botanic Gardens Foundation by Denver City Council in 1958. In addition to the original botanical unit in City Park near the Museum of Natural History, and the former Mt. Calvary Cemetery site near Cheesman Park, an alpine unit has been set aside on Mt. Goliath on the Mt. Evans highway in cooperation with the U.S. Forest Service. Another area is planned in the vicinity of Red Rocks Park in the foothills zone. These reserves in the several plant zones around Denver will work in with one of Dr. Hildreth's hobbies which is botanizing the mountains and plains in search of plants of horticultural value.

Welcome to Denver, Dr. Hildreth. Our Horticulture Association, which has been the principal booster for the Botanic Gardens since they were started in 1951, will work along with you for the mutual objective of a more beautiful city and state.



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PENSTEMONS IN CULTIVATION

By SUE N. McLANE



Beardtongue (*Pestemon glaber*)

IN 1946, Dr. Carl Worth, now of Ithaca College, Ithaca, New York, engaged in a seed collecting trip which took him into Utah, Wyoming, Montana, Idaho and Nevada. Part of the expense of this trip was defrayed by a small group of rock garden enthusiasts who had agreed to specialize in penstemons.

Again in 1947, Dr. Worth, accompanied this time by Amel Priest, collected seeds in the west. This trip began at Denver, continued south along the Front Range, through Pueblo, Walsenburg, turning west through La Veta pass into New Mexico, Arizona, Nevada, back through Utah and entered Colorado near Durango, following the Million Dollar highway, and back to Denver. Over fifty species of penstemons were collected and made available to the small group comprising the newly formed American Penstemon Society.

Only minor collections were made after this until 1957 when the McLanes of Craig, Colorado became interested in the project and began collecting for the Society. During the lapse in time, many species were lost to cultivation

as seeds failed to germinate, and other minor hazards occurred in the gardens of the growers.

Species found most adaptable in gardens vary a great deal in different areas. Of the species growing in this area most satisfactorily, the majority are in the *Habroanthus* section. In fact, *Habroanthus* produces the species most widely grown. The good blues in this group have a wide appeal to people living in sections where the native species are red. *Habroanthus* includes *P. strictus*, *P. glaber*, *P. unilateralis*, *P. fremonti*, *P. saxasorum*, *P. alpinus* and *P. uintahensis*, to name a few that are good in cultivation.

We here at Craig have tried a few of the "shrubbies" (from rooted cuttings sent by Levandeur Boyrie of Portland, Oregon) with little success. The fault may have been partly our own. This group comes under the heading subgenus *dasanthera* and includes *P. cardwelli*, *P. barrettae*, *P. rupicola*, *P. menziesii*, *P. newberryi* and *P. fruticosus*. They do very well in western gardens and are a great favorite wherever they can be grown. With good drainage (a requisite with



Light Blue

Orchid

**BEARDTONGUE
PENSTEMON**

angustifolius

secundiflorus

any penstemon) they will tolerate some shade and a great deal of moisture.

P. barbatus has crossed with some species of the *Habroanthus* group producing what is known as Flathead Lake (*Johnsonae*, 1956). There is still some speculation as to the origin of this hybrid, but one thing is known. This natural hybrid has broken the barrier between the species. At the North Platte experiment station, North Platte, Nebraska, they have found it will cross with many other species. This lucky break has resulted in some very fine hybrids. These grow well throughout the middle states and from the Mississippi to the coast. Some are being tried successfully elsewhere. The red and blue pigments have been combined in these hybrids producing a variety of colors.

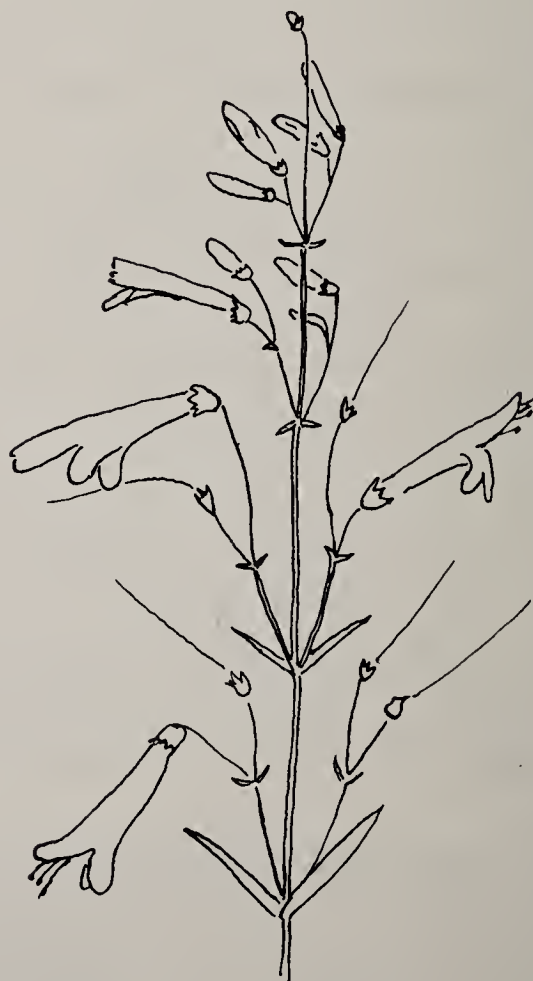
Glenn Viehmeyer, assistant horticulturist at the North Platte Station, has also done some work with the Seeba-Fate hybrids and has produced some very fine plants. This hybrid appeared simultaneously in the gardens of Lena Seeba at Cook, Nebraska, and Fred Fate at Columbia, Missouri and is,

according to speculation as well as actual tests, a combination of *P. grandiflorus* and *P. murrayanus*. Being a wide cross there is great opportunity for improvement.

The amazing thing about both of these hybrids, Flathead Lake and Seeba-Fate Cross, is that they seem to segregate in future generations about the same as in the F_1 generation.

But this is not the only amazing thing about penstemon breeding. Many existing laws of genetics have been disproven in the experiments at North Platte. That, however is a story that can best be told by Mr. Viehmeyer himself.

Germ plasms are being introduced into a gene pool at North Platte equal to the ones from which iris and roses are being bred today, and it has been



RED BEARDTONGUE
Penstemon torreyi

done in only a few short years. Records are complete and accurate and the study of evolution is being pushed forward hundreds of years in this one genus.

Seeds of some of Mr. Viehmeyer's crosses are available to the members of the Society, and as desirable plants appear in the station or in gardens, they are registered with the Society and are increased vegetatively for distribution. Les Sjulín of Interstate Nurseries is instrumental in introducing the newer things to the trade. It is to be hoped that others will soon follow his lead.

No discussion on penstemons would be complete without mention of the Mexican hybrids. These plants, probably hybrids produced artificially in England between a species in section *fasciculus* and some more northern species, perhaps *cobaea*, retained the tender character of the southern species and the large flower of *P. cobaea*. The color is red. Of these, named varieties have been selected—Ruby King, Garnet, Firebird, etc. And such seed selections as Sensation hybrids, *Gloxinoides*, and Floradale are on the market. All are tender to winters in the north but make magnificent displays where they are hardy. At one time they were used as bedding plants in Denver's City Park where they were treated as annuals.

Conservation of penstemons in the wild is the first rule of the Society. Preservation of penstemons in gardens is the second. Two species, *P. wardii* and *P. tidestromii*, according to Dr. Worth, have already been exterminated by over grazing. Sheep are the "pents"

worst enemy; whole colonies can be easily wiped out. The Society advocates that only a few plants be taken and only where colonized, and that these be distributed among the members so that preservation will be assured. And while hybridization and improvement is going on at a rapid rate, the species are playing their meagre part in the hearts of enthusiasts. Among the many specimens of hybrids and selections at the regional meeting at Hamburg, Iowa in June, Mr. Viehmeyer selected a sprig of the pure species *P. haydeni*, held it aloft and said, "Now, can you beat a thing like that?"

We would like to see other experienced hybridizers taking up the penstemon in their work. Through crosses of Flathead Lake, Mr. Viehmeyer has produced plants of a dwarf nature, but the miniatures, some of the best penstemon material, are still untouched. Mr. Viehmeyer has neither time, space, nor inclination to make all possible crosses in so large a genus. Nor is his locality adapted to growing all the species. Starting with the gene pool he has produced, other hybridizers could introduce other germ plasm and some fine things could be produced in a comparatively short time.

And for people who have no inclination to "make like a bee," the penstemon still offers varied material for garden display. Full sun, good drainage, a moderate amount of moisture, and a location free from crowding suits most of the species. Some are short-lived, it is true, some even monocarpic, but all are appealing, accommodating, and showy.

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M. WALTER PESMAN

SOME of us are hard to please in wildflowers once the time for columbines among the aspens is passed and the tiny blue forget-me-not is out of bloom on high mountain tops. We feel that everything else after that is anti-climax, but let's be fair to August glory.

Fireweed is a good standby that never fails us, even if we do not leave the car. We used to play a hide-and-seek game with our children with fireweed; now you see it and now you don't. It is really very simple if you watch the altitude.

Like many other flowers, fireweed climbs up the mountains as the season progresses. A few patches might show up in late June in the foothills. From then on it starts blooming higher and higher up, making brilliant red spots along the roadside or in burned areas. In the middle of July fireweed is beginning in Fraser, Colorado. In early August I have noted it on Redhill Pass in the middle of South Park, Colorado. It also made a big splurge on the west slope of Berthoud Pass at the same time.

Then comes the decline. First in the lower altitude its gorgeous blossoms give way to the white silky tufts bursting from the seed pods, equally beautiful but in a different way. Again, this ripening process is found higher and higher up the mountain side, but the season is shorter at higher altitudes

and early frosts may interfere. In September the best of the show is over.

Blooming at the same time as fireweed—and often close to it—we are apt to find white spots of Pearly Everlasting, looking somewhat like Pussytoe, but taller and more spectacular. If you must pick some, be sure and keep them for a winter bouquet. Hang them head down while drying in order to keep them nice and straight.

Other good August flowers in the mountains are Sunspots (*Viguiera multiflora*), also called Goldeneye. Its golden sunflower-like heads spot almost all slopes in the foothills and are found both higher and lower. How do you tell it from the other yellow composites? In the first place, look for the opposite leaves, rather slender. Then notice that the ray flowers are more pointed and delicate than they are on other "sunflowers." To find out for sure, you'll notice that its stems are brittle, and that the plant wilts quickly after being picked. (So why pick them?)

Two more spectacular flowers ought to be mentioned for August. Chicory (*Cichorium intybus*) and Plume Eriogonum (*Eriogonum annuum*). Both are easily spotted in the plains, if you know where, and, in the case of the chicory, if you look at the right time of the day.

Like a number of other Colorado wildflowers chicory insists on an after-



Fireweed



Fleabane

noon nap, so if you want to enjoy its beautiful blue flowers at their best, visit them along the roadsides around Denver about nine o'clock in the morning. The plant is rather tall, up to three feet, and the flowers are placed at odd places along the irregular stems. To be sure you recognize it, look for the milk sap in the stems. That means you'll have to put the stems in hot water before placing them in a vase; burning the stem end will do as well.

Plume Eriogonum is less plentiful. It is a tall annual (as the botanical name indicates), and is covered with

dense white felt, making it conspicuous even at a distance. The flowers are clustered at the top giving it a lacy appearance.

I found it in a large field south of Littleton, in sandy soil. It has also been reported in Manitou and Golden. It would be fine for winter bouquets if somebody could devise a scheme to prevent its little flowers from scattering.

These few August beauties will make up for the loss of early summer blossoms that stole our hearts in the previous two months.

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A Flower Trip And Contest For August

By MORAS L. SHUBERT



THE native flowers along the roadsides and in the fields and forests during August are dominated by members of the Sunflower Family (*Compositae*), so we have no trouble finding many kinds of colorful asters, fleabane daisies, goldenrods, and many others. One showy-flowered one, though injurious to livestock, has one of the most appropriate Latin names you will ever find. It is sneezeweed, known botanically as *Helenium hoopesii*! Say this several times, if at first you don't see what a good name it is. Besides the dominant composites, there are many other showy flowers to discover.

M. Walter Pesman has already mentioned several other species to seek, so it might be excusable for me to remind you that if you want a good simple book to help identify the flowers you find, his "Meet the Natives" is your best bet, unless you want to get really technical. If your nearest book store cannot supply you, write to the Colorado Forestry and Horticulture Association and enclose a check for \$2.25 or \$2.50 (spiral back) plus 20 cents for postage and handling, and your copy will be mailed.

Now let's plan a trip with a real objective. This trip should be between August 14 and 24 and any place in the Rocky Mountain region. Besides a good lunch, we will need to pack a notebook, an identification book, a camera with color film (if we want to collect some flower portraits), a raincoat (to keep the rain away) and whatever maps, altimeters, and other paraphernalia we think we might want. In

order to see morning-blooming flowers, we should be on the road early enough to visit the foothills before 9 a.m. at the latest.

Now here are the rules for this contest:

1. Make a list of every kind of wild flower you can find.
2. Make a record of starting point and altitude, route and mileage travelled, highest point reached, and total miles covered.
3. If you can keep a record of altitude where you make each find, do so.
4. Make a copy of the report and send it to The Green Thumb before August 31.

While no prize is offered (the fun of the exploration trip should be reward enough), we do want to see who can turn in the longest list of flowers found in bloom and also the greatest average number per mile, when the number is divided by the miles travelled. We would like to give you a report on this in November, so will you get in the game?

If you have trouble identifying a species, and if there are enough of the variety so that it is safe to collect one, carefully press it in dry newspaper and send it in for identification by one of our experts. We might want to add it to our herbarium, in which case we need to have complete information about the kind of habitat where it was found, its location, date collected, and collector's name. If it is something new for our growing collection, you will get proper credit.

Mother Nature's Fancy Work

By MARJORIE L. SHEPHERD

Have you ever folded a square of paper and snipped away with scissors and then when the paper was unfolded found you had created a delicate and intricate design? Or have you watched your mother fashion a doily with stitch after stitch of her fast moving crochet hook? Most of us have, but did you know that Mother Nature makes lovely doilies too?

The best time to find this fancy work is at the same time the aspens are painted in brilliant colors and we are not apt to be looking on the ground for something of interest. However, interesting things are there if we will but look for them.

Some of the flowers which are so gay along the roadsides in early summer started to grow during the preceding year, and so they are called biennials. During their first year, it is not usual for them to bloom, instead they form a flat rosette which cannot be harmed by the weight of the winter snows.



Fairy Trumpet (*Gilia aggregata*)

The plant "doily" which we have in the picture is that of Fairy Trumpet (*Gilia aggregata*) and is one of the loveliest we find along the trails and roads in the autumn. Look for it, and then while you are looking, you may find others which you like. One that is interesting is the thistle with its sharp edges, and another is one of the golden ragworts or *Senecios* with scalloped edges.

Look at them closely and enjoy them. When you see the flowers next summer, you may see some of the leaves at the base of the flower stalk, faded and old, but the same ones that made such a dainty design when you saw them this year.



The stones must be stones, and they must be placed, not on their sides, nor on their ends, like acrobats standing on their heads, but in their natural form, sunk a few inches in the ground, and with an abundance of congenial soil, loam, intermixed with sand and grit, around, within, and wherever they are situated, high or low. It is a fatal mistake to suppose that these small plants will flourish in a shallow soil. Many of them will make roots more than a foot in length, as tourists have discovered to their surprise, and to the trial of their patience, in their first efforts to transplant them from their native homes on the mountains. And far more numerous at home our gardeners have discovered too late the sad results of atrophy, that "evil is done for want of thought," and that they have starved these little ones to death.

—From *Our Gardens* by S. Reynolds Hole, 1899

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View of Durango from the new Memorial Chapel on Reservoir Hill.

Durango Garden Club Beautifies Town

By PATRICK J. GALLAVAN

SEEING is almost as important as doing in the field of garden education. The right plants in their proper setting always attract attention and invite imitation. There are good examples constantly on view in our public parks, and were we able to look into the private gardens surrounding them we might see many adaptations of park flowers and designs. In most of our larger cities we find well-established park departments carrying on this phase of civic beautification and education. There are, however, many towns or cities where this is not the case, and if park gardens exist, it is often the result of volunteer effort. A notable example of this can be found in Durango, Colorado, where the Garden Club of Durango has been working on several civic projects.

A major project just completed this spring was the complete landscaping

of the new memorial chapel building at Fort Lewis A & M College. This chapel sits on the edge of Reservoir Hill with a panoramic view overlooking Durango and the La Plata mountains to the west. It is an inspiring building made of native stone, timber and glass, and though modern in design, it is in keeping with its setting. For many years prior to the construction of this chapel its site had been a favorite vista point for tourists and residents alike. Heavy usage had taken its toll on the native vegetation; hence the need for landscaping.

This spring the Durango club purchased and planted \$400 worth of nursery stock. The planting includes 26 hopa crabs, 100 Pfitzer junipers, and 60 yellow roses. Though these are still small, they already add to the beauty of the chapel and will in time provide much pleasure for college students and residents.



Memorial Chapel viewed from the southeast



Northeast view of Chapel

In addition, the Durango Club has several more projects going at present. One is planting grass and furnishing picnic tables for a newly acquired city park; the other is landscaping a new addition to their city hall.

This spring, as a service to the community, the club sponsored a garden clinic featuring a panel of experts from C.S.U. extension staff.

Funds for these projects are raised

through an annual flower show, in itself a major production, which does much to stimulate gardening interest in the community. This year's show, to be held the 14th of August, will follow a centennial theme, "100 Years of Paradise." It will feature arrangements depicting early-day mining and rail-roading history. Should you be in the area on the 14th, Mrs. Viles, president of the Garden Club of Durango, extends a cordial invitation to visit it.

LONGER LIFE FOR CUT FLOWERS

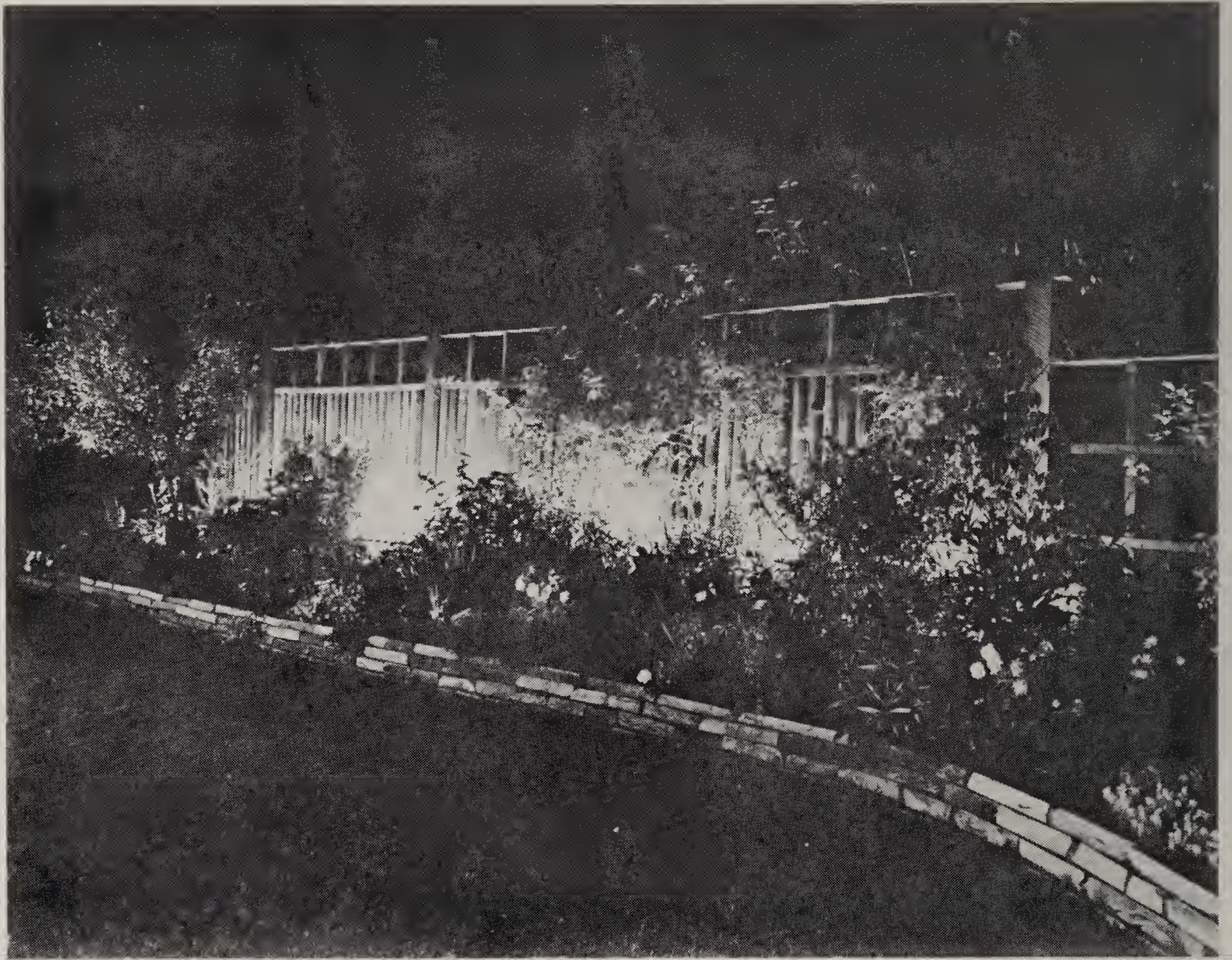
Poppies can be kept much longer in a flower arrangement if their stems are sealed over a gas flame or in boiling water. It would appear that most flowers with milky sap do not believe in "watering the milk" to use a dairyman's term.

Chrysanthemums can be kept for five weeks as follows: Hammer gently but thoroughly, the bottom four inches of the stem and change the water every three days. Each week cut off this hammered end and give the same treatment to the next fresh three inches. Change the water every three days.

Mimosas quickly turn a deeper yellow and lose their fluffiness: buy fresh ones only. Plunge lower six inches of stems in boiling water for five seconds, then sprinkle flowers above with cold water. *Mimosas* keep fresh within their paper box for two or three days even without water.

Gas heating, oil burners and even gas stoves are hard on the life of cut flowers.

—MWP



Above Photo and Following Photos Courtesy General Electric

BATHE YOUR HOME WITH LIGHT

YOU pause in the dark near the back door, flick a switch. Suddenly—your backyard blazes to life!

“Bubble lights” in trees . . . a luminous canopy over the patio . . . ground lights flash on, creating a breathtaking scene of silhouetted trees, glowing flower beds, illuminated paths.

Little wonder you feel a tinge of pride. Effective outdoor lighting is the modern touch for homeowners—and you’re as modern as they come!

Actually, any homeowner can achieve spectacular lighting results if he takes the trouble to learn the problems and requirements—and makes a plan.

According to lighting experts, good lighting fits the entire range of your outdoor activities. That means you have to know your specific needs.

Want to use your terrace and porch just to sit and enjoy the view, or do you also want them to be suitable for dining, games and reading? Each activity requires different lighting arrangements.

A homeowner planning his garden lights is very much like a sculptor thinking out the form of a beautiful statue. Take time to analyze the loveliest features in your landscape, choose the ones that are likely to bring out the intrinsic beauty, color, form and composition of a scene.

Remember, you can depend on the darkness to conceal unsightly buildings or clotheslines.

Outdoor lighting specialists emphasize that safety is another all-important aspect of the planning phase. Beautiful or not, all the light won’t be



much good if you have to stumble over dark steps, stepping stones, or dim pathways.

Once you decide on the main points, note the relationship of one complete area to another. Your aim is to create and develop an *overall* lighted scene.

A few pertinent questions will start you thinking on the right track: Will all the desirable areas be seen at once or will some be isolated? Will the areas be seen from several angles or just one? Is the contour rolling or flat . . . is the point of view high or low . . . illuminated areas close to or away from the house?

Again, keep thinking of how each element will look when the *entire scene* glows through the darkness.

You've finally worked out a general plan. Now it's time to think about specifics, the actual lamps and light intensities needed. Where dining or playing games, obviously more light is needed than in garden areas. When reading there should be a generous size floor or table lamp with a 150-watt

bulb which is well shielded by a shade placed close to the reading chair.

Naturally, areas surrounding these "sight" spots will have to be filled in with indirect light. This "fill-in" light is usually much lower than the direct light in reading and play areas.

For covered porches with louvered ceilings, the roof construction is ideal for using 75-watt reflector lamps. They're protected from the rain. Add 3 flood lamps and 2 spotlights, you have all the brightness and variation you need.

Want to make your terraces part of the outdoors? It's easy! One good principle is to light up a tree and make it serve as a "connection" for the eye. Then hang white plastic "bubbles" from the terrace roofs for added interest, spotlight your bright flowers to add focal points—it's a beautiful scene!

For lighting an evening cook-out, the best rule is simplicity. Hanging a homemade fixture 4 to 5 feet above the serving table in a heavy branched tree is an excellent idea.







Additional light may be added by mounting other lamps in trees or on the building top or on poles. High mounting—15 or more feet above the ground—to keep the light out of your eyes.

For a touch of mystery and drama, silhouette the buffet table against a vertical surface that's "spiced" with hidden colored lights.

But your most dramatic results can come from the lighted flowers. First determine the *kind* of sensation you want them to give—one of low key or fantasy and illusion where the imagination fills in details, or maybe something bold and striking?

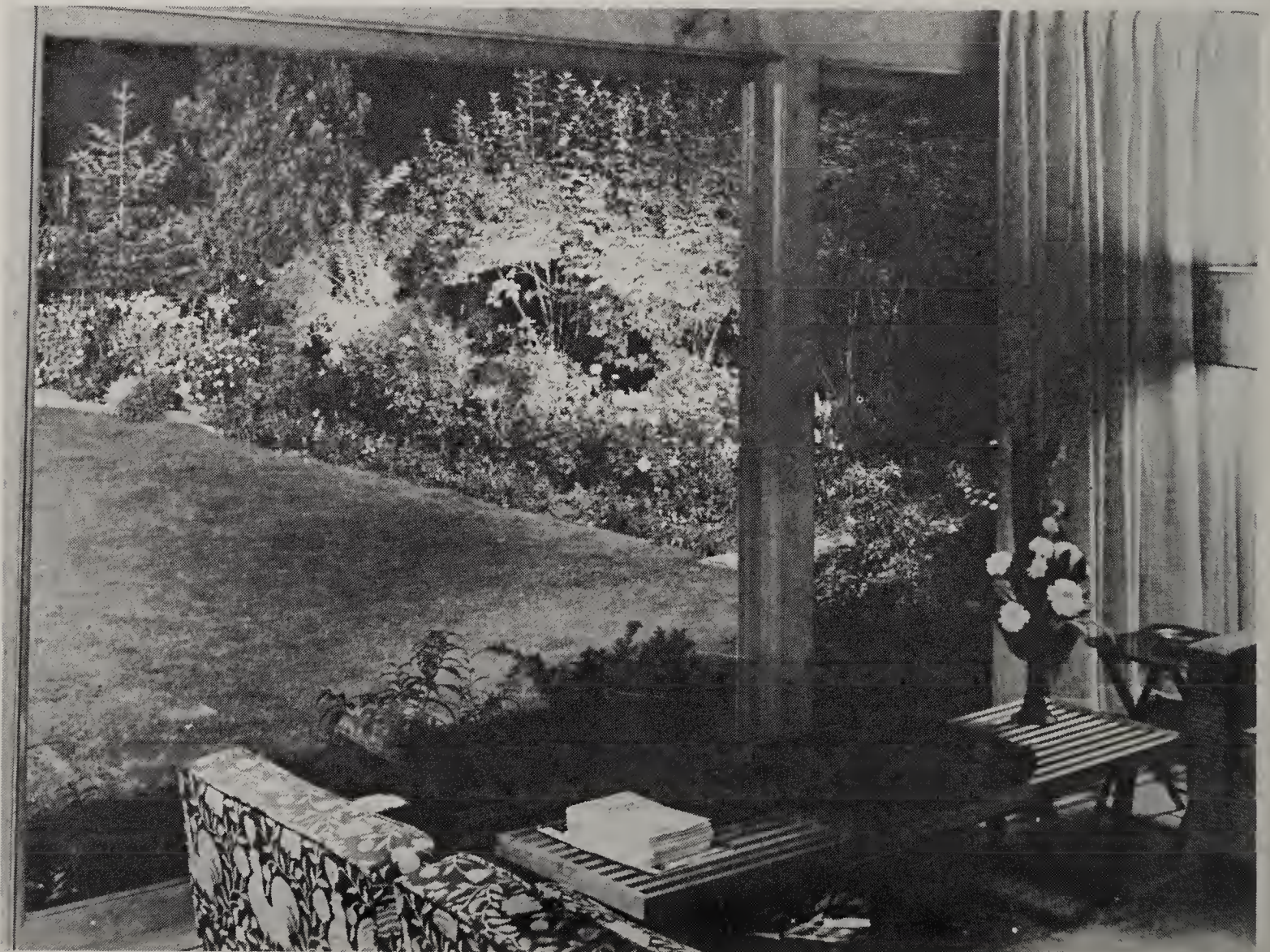
Dramatic, startling results with more color, definition of detail takes a higher level of lighting than moonlight. The most pleasing results in this regard come from a planned composition of color and brightness developed around a selected focal point like a flower bed, an exquisite tree, a pool, fountain or sculpture.

The selected feature should usually be from 2 to 5 times the brightness of the other features. And the smaller areas or objects will need more emphasis than the larger.

There's no end to the forms and the patterns you can work out. Lighting on both sides allows you to model and avoids flatness. More light on one side accentuates the effect. Surface textures can be emphasized by placing a light so close to an object it strikes at a narrow angle. And translucency, depth, form, and pattern can be emphasized by silhouetting an object—but with some front light, too.

Caution: floods and spots placed too close to an object produce excessive brightness, which spoils the effect, and unshielded bulbs create a disturbing glare.

Colored lights are a decorating possibility in themselves. And on this subject, experts have compiled some es-





pecially valuable tips. Tints rather than saturated color give subtle and more natural effects. White flowers, highly saturated colored ones, or gardens with mixed colors, usually look best under white lighting.

And, for greatest pleasure in outdoor living areas after dark, use yellow "bug lights." Since night-flying insects don't seem to see yellow light, they will be less attracted to it. What's more the new improved G.E. yellow

"Bug Lights" are flattering to human complexions.

Your local dealer will be a source of additional information, so don't be afraid to talk things over with him. Remember, outdoor lighting is probably the lowest cost decoration available.

All it takes is a little effort, the right lighting equipment and wiring, and your backyard becomes a scenic wonder—at the flick of a switch!



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Melanie B. Brown

In Retrospect And Prospect

By M. WALTER PESMAN

WHEN you read this you won't hear Melanie's pleasant voice any more over the telephone. You'll miss her well written articles in *The Green Thumb* and her answers to your gardening queries at Horticultural Headquarters.

That sounds tragic, doesn't it? Well, to some of us it *is* tragic to learn that she is going to leave Denver. Denver and Denver gardeners feel by this time they have a sort of claim on her. To put it in "centennial" words: she herself staked out this claim, but we were all profiting from it.

On the first of August, or thereabouts, Melanie Brown is headed for other pastures—Missouri and Illinois to begin with, then perhaps California. Her relatives are going to profit, her Denver friends and admirers are the losers.

By this time we have come to depend on: 1. Her assistance to our director, Pat Gallavan. 2. Her capable and cordial telephone service ranging from information and advice to just general gardening help of all kinds. 3. Her ability to act as a ghost writer for people who have lots of good information but not the power to put their knowledge in writing. 4. Her personality that makes people glad to come to headquarters and to ask for advice.

It would not be difficult to extend this list to a dozen points at least, but it might intimidate the person who will try to fill her shoes, and who has not yet been selected by the time of this writing. Anyway, the people who have known Melanie for these four years can fill in the other items.

Has it really been four years? We are always taking things for granted and we are apt to take folks for



granted, just as if they were destined to be with us for time to come. Suddenly things pop and then we realize how much certain people and relationships have meant to us in our daily lives.

Melanie Brown, we felt, was part of Denver and Colorado. In a way, we were justified in that idea. After all, she graduated from the University of Colorado in 1948. At that time she was an anthropologist. (No wonder she knows about "people".) Just before she graduated, the Denver Museum of Natural History undertook an expedition to the Book Cliffs of Utah, 75 miles west of Grand Junction. Dr. Marie Wormington was the leader, Melanie participated.

It was not the first time she had tasted the joys of outdoor life. Her father had the love of the West and initiated her into camping and hiking, even to canoeing in the Wisconsin lake country. As a young man before he married, he homesteaded in Wyoming near Pinedale and had a mine near Salida, Colorado. Then many years later, as a father, he took his young teen-age daughter on a pack trip into New Mexico. (Her mother died when Melanie was seven years old.)

Provincialism is not commonly associated with outdoor life. If, in addition, one is exposed to the habits and customs of other countries—as Melanie was—a well-rounded personality

is sure to result. She lived with a Swiss family in Zurich for four months after graduation, visited some relatives in Germany, and then traveled through Italy, France, Belgium, Holland, and Great Britain for two months before returning to her home in St. Louis. Then she moved to Chicago to live with her aunt and uncle. That was in 1953.

Can anybody with a taste for Colorado settle down quietly in Chicago? Most of us here are prejudiced on this question, of course! Fact is that 1954 saw her back in Denver. Too much love for the great open spaces, the bright sunshine, the mountainous country! (I have a secret hope and feeling that history may repeat itself later.) This time the Littleton Independent benefited from her ability in writing: she headed a column called TOWN TALK. That's where she learned to interview all kinds of people. She found out about their hobbies and daily lives. It was a good column.

She also did some work in the Medical Library of the Colorado University Medical School, a good basis for the library activities at Horticulture House.

When the Colorado Forestry and Horticulture Association needed an office assistant, it was not difficult for her to fill that particular niche. She

has filled it well ever since. She has made friends for herself and for the organization. Fact is, our headquarters will seem unduly empty without her genial personality.

At this point I felt it was necessary to "tone down" this article, and I asked her: "Don't you have any bad qualities?" Her answer came promptly: "Many, but procrastination is a primary one!" With that horrible sin hanging over her, the next two items popped up.

Couldn't she put off her going away for another couple of years until she got good and ready? Answer: Her uncle and aunt need her and it cannot be put off.

The other item: Would she procrastinate in writing the next article that she has promised for The Green Thumb? Answer: She will not put off a delay in postponing writing it. See?

Well, Melanie, I am merely the mouthpiece of a great many of the members of the Colorado Forestry and Horticulture Association, and of all the readers of The Green Thumb, in wishing you the very best in the life that is before you, and in hoping that before long your urge for the West where the sun invites outdoor life, will be strong enough to bring you back to where you really belong. Good-bye and au revoir!

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ROCKY MOUNTAIN CHAPTER OF LANDSCAPE ARCHITECTS JOINS NATIONAL GROUP

The American Society of Landscape Architects, national organization of professional landscape architects, announced the affiliation of the Rocky Mountain Chapter of the American Society of Landscape Architects to the national group on June 1, 1959.

Officers for the newly formed chapter are Julia Jane Silverstein, Denver, president; Leon Frehner, Salt Lake City, vice president; Gerald F. Kessler, Denver, secretary-treasurer; and Sam Huddleston, Denver, trustee. All officers are members of the American Society of Landscape Architects.

ASLA was founded in 1899 for the unification of landscape architects in private practice and those in the employ of others. Primary function of the society is to promote the improvement of man's environment through the utilization and planning of land space.

The new chapter began its existence in 1956 as the Rocky Mountain Association of Landscape Architects. Among those present at the founding meeting were Miss Silverstein, Mr. Kessler, and Mr. Huddleston.

Julia Jane Silverstein majored in the field of Landscape Architecture at the Lowthorpe School of Design, now a part of the Rhode Island School of Design in Providence, Rhode Island.

Miss Silverstein is currently engaged in private practice, with emphasis on residential design, and has done work with schools in the Denver area in an advisory capacity. She served on the Advisory Board for City Park in Denver.

In addition, she is a member of the design committee of Colorado Garden Fair, Inc., and the editorial board of *The Green Thumb*, publication of the Colorado Horticulture and Forestry Association.

Leon Frehner, a graduate of Brigham Young University's Department of Land Environment, engages in private practice of landscape architecture and community planning in Utah and surrounding states. He acts as consultant to Salt Lake County and has worked as planning consultant in cities and counties in the state of Utah.

Gerald F. Kessler, who majored in Landscape Architecture at Utah State Agricultural College and later received a master's degree from Harvard University's Graduate School of Design, is the Chief Designer for the firm of Harman, O'Donnell & Henninger Associates, Inc., a land planning consultant firm which specializes in city planning and landscape architecture.

Mr. Kessler is a member of the American Society of Planning Officials and the Colorado Institute of Planners.

Before beginning his work in Denver and the Rocky Mountain region, Mr. Kessler served with Olmstead Brothers, Brookline, Massachusetts, and Gordon E. McNiel and Associates of Boston.

Sam Huddleston has engaged in private practice in landscape architecture, land planning, and city planning in the Rocky Mountain states during the past ten years. He is a graduate of the University of Illinois with major emphasis in the field of landscape architecture and city planning.

Before he established residence in Denver, Mr. Huddleston worked for the United States Forest Service in the eastern and southern states. He was a supervisor for work done on the Blue Ridge Parkway.

Mr. Huddleston is an associate member of the American Institute of Planners and acts as a director for Colorado Garden Fair, Inc.

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Current membership of the Rocky Mountain Chapter of the American Society of Landscape Architects is 20 active members, 24 associate members, and 1 honorary member. Members

are engaged in private practice, in the United States Forest Service, in the parks and recreation fields, and in F.H.A. land planning offices.

How is the phlebitis? No one ought to suffer from anything with such a pretty name. Did you ever stop to think that the names of diseases and the names of flowers are very similar? For instance, I might say, "Do come and see my garden. It is at its best now, and the double pneumonias are really wonderful. I suppose the mild winter had something to do with that. I'm very proud of my trailing phlebitis, too, and the laryngitises and deep purple quinsies that I put in last year are a joy to behold. The bed of asthmas and malarias that you used to admire is finer than ever this summer, and the dear little dropsies are all in bloom down by the lake, and make such a pretty showing with the blue of the anthrax border behind them!"

—Ertz, S.: *Madame Claire*, p. 116. New York:
A. L. Burt Company, 1923

Reprinted from Physicians Bulletin, May 15, 1958
Eli Lilly & Company, Indianapolis 6, Indiana

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GARDEN CLUB BRIEFS

By MRS. EDMUND W. WALLACE,
Federation of Garden Clubs

Hot weather is relaxing time and so gardeners are urged to attend garden shows and relax while enjoying the efforts of others. One always comes away from these shows with new ideas and new appreciation for good horticulture and good flower arrangement. The current list of garden shows will be found, as always, in the front of the magazine under "Calendar of Events."

Mrs. C. C. Buckbee announces the Flower Show School (Course III) will be held at 909 York Street September 15, 16, 17. This is a chance for all garden enthusiasts to improve their growing and arranging ability under able tutelage. Horticulture will be taught by Mrs. Earl Powell of Roswell, New Mexico and Flower Arranging and Flower Show Practice by Delia Franklin Castor of Ponca City, Oklahoma. Anyone may attend any or all of these lectures. For further information contact the state president, Mrs. John Nickels, 133 North Sherman, Littleton, Colorado.

Mrs. L. J. Woodman, state chairman of Flower Show School, assures us that Mrs. J. C. George of Boulder, Mrs. Owen Goodspeed of Aurora, Mrs. A. H. Pettrick and Mrs. John Scott of Englewood have passed their reading examination and have had their applications sent to the National Council of State Garden Clubs for their accredited Judge's certificate.

A new corsage club, the Floral Benders, made up of Federated garden club members, has been formed under the leadership of Mrs. John Sobiella. Call Mrs. W. C. Reusch if you wish information regarding the forming of these corsage-making groups.

Colorado has some outstanding hybridizers and growers of African Violets. The National Violet Society has two newly developed violets registered from Colorado. One is "Denver Doll"—a miniature with a large purple bloom. It was developed by Mrs. June Riese of Denver. The second is "Colorado Paint Brush." It was developed by Mrs. F. G. Spitz of Ft. Collins.



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BOOK REVIEWS

THE AMARYLLIS MANUAL

By HAMILTON P. STRAUB, Ph.D.

Amaryllis in the North, brightly colored blooms bring cheer to indoor gardens; in the South, brilliant hues enliven the creative gardener's borders and flower beds.

The surprisingly varied members of the genus *Amaryllis* are among the most resplendent flowers known in cultivation. Their relative ease of culture (given the right conditions) and the remarkable results that can be obtained through hybridization make amaryllis apt subjects for breeding and other research.

In this definitive guide to the fabulous amaryllis, Dr. Straub presents a comprehensive range of information on the culture, ornamental uses, and history of the species.

Whether beginning with seeds, cuttings, bulbs, or full-sized specimens, gardeners will find in this book detailed directions for growing these long-lived plants. With these instructions they will acquire a basic botanical knowledge which will enhance their appreciation and clarify some cultural practices.

Arranging, exhibiting, and commercial handling are fully covered along with the latest scientific advances in disease and pest control. The esthetic and educational uses of the genus constitute a compelling chapter.

While the body of the book is devoted to information for the gardener and plant hobbyist, technical discussions for the scientist are developed in the extensive appendices.

Twenty full page plates of drawings by Allianora Rosse, with a dozen ad-

ditional half-tones illustrates all of the species and many of the varieties described in the book.

In the words of one advance reviewer, THE AMARYLLIS MANUAL is "an elegant sufficiency for the specialist."

ENJOYING AMERICA'S GARDENS

By JOAN PARRY DUTTON

Reynal & Company, New York. \$5.00.

This is a book of sheer enchantment about the gardens of America written from a highly unusual point of view and with a charm and skill that marks it as real literature.

The author left her native England to see America by way of its gardens on a six months trip and stayed to continue her explorations for eight years, finally marrying here and settling in the lovely Napa Valley north of San Francisco.

She not only gives us an exciting and stirring picture of great gardens and flowering areas throughout the country but weaves into the narrative a lifetime's study of garden lore and garden history that makes the whole book fresh and vividly alive.

Of particular interest to the Rocky Mountain region will be Mrs. Dutton's chapter on Colorado—Denver in particular. George Kelly, The Green Thumb, our Association, Mr. DeBoer, the late Mrs. G. R. Marriage are all warmly mentioned.

This is a book to be savored for the sheer delight that Mrs. Dutton conveys. Its appeal is to all lovers of flowers as well as to the expert botanist. It is beautifully decorated with line drawings by Grambs Miller which add greatly to the enjoyment of the book.





Scorecard For Judging Home Grounds

M. WALTER PESMAN

Isn't it peculiar that we have adopted score cards for any kind of flower judging but that gardens are being judged "by guess and by gosh?" Under the circumstances isn't it logical, then, that first prizes given to "the best garden" usually elicit a storm of protests from people who feel that their gardens are just as good or better, or that their friend's garden should have had either first or second prize?

Are there no standards?

Whenever I have been called in to act as judge on a garden contest I have insisted on some sort of standard to be followed.

The simple fact is that we can fairly well agree on some basic fundamentals of excellence in gardens, once we sit down together and analyze the purpose of a garden. After having examined a number of entries, both good qualities and bad qualities stand out. They can be the basis for scoring.

The following score card is the result of actual garden judging. It evaluates some of the qualities which a "good" garden should show. Personal opinions will, of course, give a somewhat different value to this item or that but the total result will not vary much.

It will be noted that, in general, one fourth of the 100 points which a perfect garden would rank, are given to each of the following: General Design, Planting Design, Neatness, and Horticultural Knowledge in maintenance. Each division should be subdivided.

Only one important change occurred to some of us after using this score card. Occasionally we came across a garden that was not bad in general—might even have had excellent maintenance—but it had one monstrosity which definitely kept it from getting one of the top prizes. It might be a badly designed "rock garden," an all-around lack of color harmony, or a total deficiency in the principle of scale.

These defects might be so incongruous that some deduction should be made from the total score, in addition to the specific small items covering scale, unity, color harmony etc.

SCORECARD FOR
HOMEGROUNDS

		Points		
GENERAL DESIGN			Continuity and duration of Interest..... 3 (bloom or other interest)	
Interest and "atmosphere".....	5		Proper grouping and spacing of plants.....	3
Proper utilization of total area..... (includes relationship of house and garden)	4		Scale and balance of plant material.....	4
Proper coordination of all areas..... (includes location of walks, drives)	3		Total Design	55
Unity and variety.....	3		NEATNESS	
Principle of Balance observed..... (needs not be symmetrical balance)	3		Lawn neatly mowed and groomed.....	4
Principle of scale and proportion.....	3		Flower areas well groomed, as to dead flowers, stalks and leaves.....	4
Utilization or creation of views, focal points	3		Proper Edging	4
Utilization of special opportunities or handicaps; may include screening.....	3		Freedom from Weeds.....	4
Liveability	3		Condition of Service Area, ashpit, and other special areas.....	4
PLANTING DESIGN			HORTICULTURAL KNOWLEDGE	
Unity and Variety in plant material.....	3		Evidence of Plant Health.....	7
Color Harmony	4		(proper use of soil and water)	
Character of Plant Material; choice or commonplace, appropriate or inadequate..	5		Freedom from insects.....	3
Proper use of texture.....	3		Freedom from disease.....	3
			Freedom from other defects.....	3
			(chlorosis, etc.)	
			Proper trimming, pruning, plant supports....	4
			Proper lawn growth.....	5
			Total Maintenance	45
			A perfect garden, both in design and maintenance, would rank 100%	

Deduct up to 25 points for gross defects.
Note: Use of this Score card is free as a public service but should be credited to the originator.

GRASS

Reprinted from the New York Times, Sunday, April 20, 1958

Of all the every day plants of this earth, grass is the least pretentious and the most important to mankind. It clothes the earth in an unmistakable way. Directly or indirectly it provides the bulk of man's food, his meat, his bread, every scrap of his cereal diet. Without grass we should all starve, we and all our animals. And what a dismal place this world would be!

Grass is simplicity itself. Not the simplicity of the uncomplicated unicellular life of stagnant water, but specialized simplicity unmatched in the fields. All the grasses, even the corn and wheat and barley and oats, have achieved a kind of perfection by eliminating nonessentials. Their stems are seldom branched. Their leaves need no stem of their own, and they are long, tapering, economical expanses of chlorophyll. Their flowers have dispensed with petals, scent and honey, since they need neither bee nor butterfly to pollinate them. The wind does that job. Even their ovules are very simple, and their carefully rationed pistils. The flower's purpose is to make seed, not show, and it does it most efficiently. Even the roots of grass are uncomplicated.

So there it is, the simple grass, perfect for its purpose and almost everywhere that plants can grow. It may vary into a hundred species, but never does it complicate itself too much. It grows tall as bamboo. It grows generous as corn. It grows lush and cool as bluegrass. It is a weed sometimes, but it is a lawn, a pasture, a hayfield, a thousand-acre ocean of wheat. And now it greens the earth again, spring in the lifting blade, everywhere.

CONCERNING TREES

The following are excerpts from **TREES AND LIFE**, The Magazine For Tree-Lovers, edited by Richard St. Barbe Baker in Southampton, England. They could just as well have been written for Denver or for any other American city.

“ . . . At our recent Spring Conference it was encouraging to hear from a Devon County Council planning officer of his authority's insistence on trees as an integral part of any new building or development project. This is particularly heartening to those who have for long been working to this end.

“But now a fresh wave of feeling is sweeping the country. As I write, I have before me an appeal to save the trees of Hyde Park, which are again being threatened, this time to provide parking places for cars. The removal of the elms in Broad Walk Kensington, in 1953, under the pretext that they were diseased and dangerous, was a tragedy. In actual fact, not one of them was diseased, and a careful examination of every tree after felling cleared them of the accusation that they had been dangerous. The high-handed way in which they were destroyed is symptomatic of bureaucratic behaviour which must now be challenged by all those who appreciate trees for their biological contribution to the well-being of the country as well as for their beauty.

“The slaughter of these noble elms sets a bad example to urban councils in other parts of the country. The common excuse for removal of any tree is that it is diseased and dangerous. Unfortunately the tree cannot speak for itself and reassure the anxious councillors, or it might say: ‘Really I'm quite well, thank you. I am feeling fine in spite of having been bumped

into from time to time by furniture vans and lorries, in spite of having my roots hacked about by water engineers, electricians, gas men, pipe layers, and so forth. With my colleagues along the road I am doing my best to shelter the houses and provide shade in summer for the thousands of pedestrians who enjoy it. Of course, if you will try to push me over with the bonnet of your car and come crashing into me, you must not blame me if you get hurt. If I could side-step out of the way, I would. There is another thing you city councillors may have overlooked, and that is the part we trees play in the purifying of the air. The bigger the city, the more trees are needed to absorb the carbon dioxide, and to give off the oxygen its citizens need in order to breathe. Heed our warning. Harm us not.’

“ . . . It was good to find among responsible people in every country I visited a growing realization of the oneness and interdependence of mankind and of our universal dependence upon trees for our very existence. When the trees go, water goes, food goes, and life departs. An ever-increasing desert in any country is far worse than an army of occupation and even more ruthless. These vital facts have been realized by the U.S.S.R. and the People's Republic of China. Both countries have already completed gigantic planting programs to halt the common enemy of man everywhere—the desert. With the co-operation of foresters, school teachers, and other local groups, a 3,000 mile shelter belt has been completed in the U.S.S.R. during the past ten years. In China many millions of trees have been planted to stop the sands of the Gobi Desert from further invading the country. The Old Wall of China has become a tree

wall, a living, growing barrier, not against human armies, but against the invasion of the desert. In Morocco the Green Front is holding the desert at bay and will soon be pushing it back. Egypt is reclaiming a million acres of desert on the western bank of the Nile. In Israel a miracle of planting is taking place in that little country, and refreshing

dews are returning with the 'former and latter rains.' In New Zealand tree cover has been restored to the extent that the new forests are now supplying some of the more needy countries, such as Australia and Japan. 'The challenge of afforestation,' says President Nehru, 'must be met if the world is to be made a better place to live in.' "

Two years ago last December the National Parks Service brought about the inauguration of a national park on the Virgin Islands. This is situated on the Island of St. John in the midst of that archipelago which partly belongs to Great Britain and lies north of the Lesser Antilles in the Caribbean Sea. The Park was authorized by the Act of August 2, 1956 signed by President Eisenhower; it is the nation's twenty-ninth national park. Although its area is limited to 9,500 acres, this encompasses two-thirds of the island and includes the portions most suitable for park purposes. The Island of St. John is of ancient volcanic origin with a mountainous topography and is fringed by coral reefs. The vegetation is of a second-growth tropical forest, as the original virgin forest was removed or radically altered in the 17th century to make way for sugar plantations. When the plantations were abandoned, in the middle of the 19th century, the forest growth again took over. More than 260 species of native woody plants are found on the island and their luxuriance and variety give an exotic charm to the reserve. Wildlife is not unusually abundant, although the mongoose introduced many years ago from Asia can still be found, in spite of the government having tried to exterminate it because of the amount of destruction it causes. On the other hand, bird life is plentiful, most of the families being North American rather than tropical. They include doves, pigeons, mockingbirds, warblers, hummingbirds, pelicans, boobies, grebes, terns, ducks, herons, and egrets, in all between 100 and 150 species. Petroglyphs, or stone-writings, relics of the Carib Indians in pre-Columbian days, have been discovered in some places. Fish abound off the shores of St. John, and many and brilliant forms of shells are to be found on the exquisite white sand of the beaches. This, the most recent American national park, is in keeping with its predecessors' reputation.



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Letter To The Editor

Dear Editor:

Recently a newspaper clipping from the Rocky Mountain News was handed me. It showed a historical letter from Mr. Lewis Dow, written at Fort Kearney, on June 21, 1859 (a real centennial).

It reads like one of those fantastic tales of frontier days, many of which must be taken with a considerable amount of salt.

Among other things the letter mentions a sensitive plant with unusually beautiful blossoms and of large size.

Thinking that all sensitive plants were mimosas and that mimosas did not grow anywhere in Colorado I asked Dr. Moras Shubert, botanist, to pin down such inaccuracy in the letter.

He finds that most of the story is probably correct, as proved by botanical information in Dr. H. D. Harrington's *Manual of the Plants of Colorado*.

There is a record of a *mimosa* from the southeast corner of Colorado, and one from Lincoln County. It is a shrub 1½ to 6 feet tall, with double-compound leaves which are sensitive, and small flowers in round heads. It is called *Mimosa borealis*.

In addition there are two sensitive briars reported from the same south-

east part of the state, *Schrankia nuttallii* and *Schrankia occidentalis*. Their stems are up to four feet long, leaves are again double compound, flowers white, pink or light red. The seed-pods are four-angled, (flat in mimosa), and the stems are not upright as in mimosa, but bending over.

In one item, however, Mr. Dow seems to be confused. Both mimosa and *Schrankia* are spiny. The spineless shrub with leaves like mimosa is not sensitive but has very spectacular yellow flowers; it is called Rushpea or *Hoffmanseggia*; again it occurs in the eastern and southeastern part of Colorado.

What is really surprising is not that these busy, hardy pioneers would make some mistakes in observation in their travels, but that they had such a live interest in all items of their new environment.

We would do well to use our own eyes (and other senses), half as well as they did. We might achieve some accomplishments comparable in importance to theirs. It is one of the lessons our "Centennial" might well teach those of us who still have the pioneering instinct in our make-up.

Who says the time of pioneering is past?

Sincerely yours,
M. WALTER PESMAN

From "Postal Service News" comes this horticultural chuckle: "Rochester, New York, Clerk Harold Cohen knew the lady meant the horticultural commemorative when she asked for green stamps. But the man behind her misunderstood and, having made a purchase, asked for all the green trading stamps he was entitled to."

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Seasonal Suggestions

August brings flower shows and county fairs for exhibiting the flowers and fruits of the summer season. These events are important to a gardener whether he is a participant or a spectator. Thrill of competition and the possible joys of winning are the rewards of active participation. As a spectator, he may enjoy his neighbors' beautiful flowers and fruits and he can also learn new varieties of plants, along with other information, from horticultural and educational displays. The Calendar of Events this month contains the dates of a number of flower shows. Try to find time to take in one or more of them. And bring along a garden note book to jot down information.

If a garden note book is news to you, this is an excellent month to start learning about it. Garden work has slowed considerable so you should have time to make an inventory of things in your garden. Here are a few items a note book should contain: An overall sketch or plan of your garden with detailed plans of rose, perennial, or annual beds; a listing of plants with room for comments on their individual performances; a place for data on sprays and fertilizers; and, of course, a miscellaneous section where you can jot down all the new ideas you hear but never use because you forget them. An additional suggestion—cut out Mr. Pesman's Garden Score Card and paste it in your book. Once or twice a year check your garden against it. It shouldn't take many seasons to get a perfect score!

Now back to the garden. The battle of the bugs is still going strong. A particularly troublesome pest this month is the pear tree slug. It is a slimy, blackish-green worm $\frac{1}{4}$ to $\frac{1}{2}$ inch long. You'll find it on cherries, plums, cotoneasters, and pears. It skeletonizes the leaves, eating the green matter and leaving the midrib and veins intact. Spray with malathion or D.D.T. for effective control. Grasshoppers are on the wing now but are still susceptible to chlordane or dieldrin. In areas where boxelder trees still grow, the boxelder bug, a black and red winged insect, is apt to be a nuisance. Spray the trees with dieldrin.

Don't forget to check your evergreens once a week for this is a time of rapid build-up of aphids. They can seriously damage a tree if left unchecked. Malathion or one of the multi-purpose sprays will control them.

Cultivation of flower and shrub beds will do much to eliminate weeds and will add to the neatness of your garden. Speaking of neatness, keep faded blooms picked unless you want to collect seed from some particular plant.

You can still transplant iris and oriental poppies. If you have lost any trees or shrubs through the summer, they can be replaced with container-grown material. It's also time to start taking cuttings from geraniums and begonias for house plants. This process is explained in the April issue of *The Green Thumb*.

New lawns can be planted from mid-August to mid-September. The basic steps are: 1. Soil preparation. Incorporate at least two yards organic matter per 1000 square feet. 2. Grading and leveling. 3. Use of quality seed. Either Merian bluegrass or Kentucky bluegrass. 4. Roll lightly and mulch with peat moss. 5. Water lightly and frequently until the grass is up. 6. When the grass is up, water thoroughly and less often.

It's now time for the final application of a complete fertilizer for old lawns. Put it on some time between the 20th of August and the 15th of September.

One more suggestion that was passed on to this department last month. It was noted that a great many small trees have been banded or cabled with wire to keep them upright and that in many cases the wires have girdled the trees causing damage. This happens when owners forget to loosen the wires to allow for the increased growth in the diameter of the tree. Such constrictions can even cause the death of trees. If you have guyed-up trees, make sure you loosen the wires or remove them altogether once the tree becomes established.

P.S.—Don't let August slip by without a trip to the mountains to see the late wild flowers.—Pat.

WINNERS OF DOOR PRIZES ON LOOK AND LEARN TOUR

Mrs. Walter Seyfarth, 2827 Bellaire — magazine

Mrs. W. N. Gillette, 2680 West 80th Ave.—jelly

Mrs. R. W. Arndt, 1175 Emerson — potted flowers

Mrs. Wm. S. Boyce, 721 Franklin—sprinkler

Mrs. H. L. Hurley, 1357 Williams—two garden hoses

Mrs. Basil Kidwell, 2780 East Flora Place—Better Homes and Gardens garden book

Mrs. J. E. Chamberlain, 1170 South Cook—pruning clippers

Mrs. Mackintosh Brown, 580 Franklin—insect spray

Mrs. Wm. K. Whiteford, 5121 Pinyon—thermos

Mrs. Margaret Demchevsky, 301 Garfield Street—wine

Mrs. P. W. Siebert, 5475 Bowmar—jardinier

Mrs. C. C. Buckbee, 4190 Depew—perfume

The Centennial Look and Learn Garden Tour was a fine success this year thanks to all of you who worked so hard on it—particularly the committee headed by Mrs. Alexander Barbour and Mrs. Hugh Catherwood as co-chairmen assisted by Miss Sally Davis and Mrs. George Hayden in charge of tickets and publicity. A complete report will follow in the September issue.



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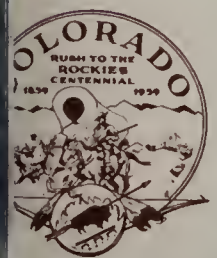
Magazine for Rocky Mountain Gardeners



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Vol. 16

No. 8

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The Green Thumb

Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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The Colorado Forestry and Horticulture Association

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EA 2-9656

909 York St.

Denver 6, Colorado

Calendar of Events

Landscape Course: Taught by M. Walter Pesman at the C. U. Extension Center, 1100 14th St. September 23 through November 18 at 6:20 Wednesday evenings. Tuition is \$10.00. Interested persons may register by mailing their tuition to the Extension Center or by applying in person. The course is designed especially for home owners in new subdivisions. New ideas and discussion on making home grounds individualistic, appropriate and economical choice of plant materials, and the design and use of patios and fences are the outstanding features of the course.

Floral Art Course: Opportunity School. Every Thursday 9 a.m.-11:30 a.m., 1 p.m.-3:30 p.m., 6:30 p.m.-9:15 p.m. There is no charge except for materials.

The Green Thumb Program—Every Saturday morning on KLZ at 10:15 a.m.

State Convention of Federated Garden Clubs—September 29 and 30 and October 1 at Idaho Springs.

Flower Show School—September 15, 16, and 17 at the Botanic Gardens House.

Chuck Wagon Roundup—September 13, 4 p.m. to 7 p.m. at the Botanic Gardens House.

Botanic Gardens' House
Meetings, 909 York St.

September 8—Sloan's Lake Garden Club, 12 noon. Evergreen Garden Club, 7 p.m.

September 9—Organic Gardeners, 8 p.m.

September 10—Rose Society, 7 p.m.

September 11—Colorado Forestry and Horticulture Finance Committee, 10:30 a.m. Colorado Forestry and Horticulture Board luncheon, 11:30 a.m.

September 13—Chuck Wagon Roundup.

September 14 — Judges Council, 10 a.m.

September 15, 16, and 17—Flower Show School.

October 6—Mountain View Garden Club, 1 p.m.

October 7—Botany Club, 7:30 p.m. Mrs. Kalmbach will speak on Early Naturalists of Colorado and early glass color slides with comments by Mrs. Crisp will be shown.

October 8—Rose Society, 7 p.m.

October 9 — Colorado Forestry and Horticulture Finance Committee, 10:30 a.m. Colorado Forestry and Horticulture Board luncheon, 11:30 a.m.

October 12—Judges Council, 10 a.m.

October 13—Evergreen Garden Club, 7 p.m.

October 14—Organic Gardeners, 8 p.m.

October 20—Colorado Womans Service Club tour, 10 a.m.

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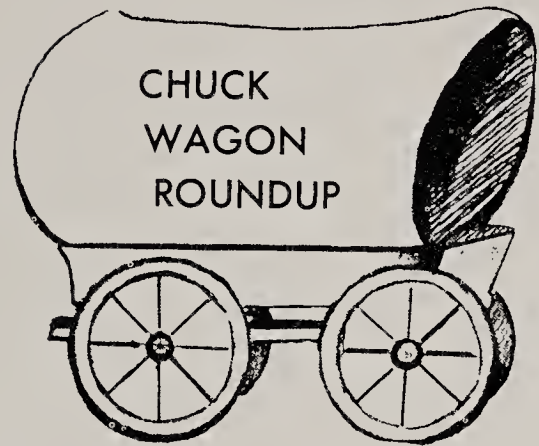
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SUNDAY,

SEPT. 13

CHUCK WAGON ROUNDUP

By VELLA HOOD CONRAD

Howdy! Howdy everyone! It's wonderful to be back with you all again—especially now that it is centennial. What a grand excuse this centennial year gives us to have an Association picnic in the form of a "Chuck Wagon Roundup." We haven't had one for at least five years, maybe more. A picnic, that is. We figure it should be held at the new Botanic Gardens House at 909 York Street. That's here in Denver for you out-of-towners and out-of-staters. And we've reckoned the best time to be September 13, 1959 from 4 p.m. to 7 p.m. Everyone's welcome so get yourself rigged out in western, centennial, or whatever gear you want, but get on your horse and come! There'll be good vittles at a reasonable price. Bring your own tin cups, plates, and hardware. Entertainment, tours of the house, and information concerning plans and hopes for the Botanic Gardens will all be part of it. Tickets will be available September 1. Contact the Colorado Forestry and Horticulture Association at EAst 2-9656 for details and tickets. Hop on the Chuck Wagon and join the roundup!

Ed. Note: Mrs. Henry Conrad has been quite ill for the past four years and therefore has been unable to actively participate in the affairs of the Association. Much improved in health, now, we're glad to see her up and active again.

INTRODUCING A NEW MEMBER OF THE GREEN THUMB STAFF



We hope that you will share the pleasure we feel in introducing the new assistant editor of *The Green Thumb Magazine*—LaVica Bonar.

LaVica joined us on July 24 after graduating from Colorado State University in 1959 with a degree in Horticulture and Ornamental Horticulture. Her school record is of special importance to the Association because it shows that she was outstanding in her chosen field which is our main interest—horticulture. She was an active member of the Horticulture Club, serving as secretary for 2 years and as vice-president for one year. Other extra-

curricular activities included work in the Independent Student Association, the Counselettes (similar to the Big Sisters) and the Wesley Foundation. LaVica says, and we can well believe her, that the most tremendous thrill of her college career came when she was named “outstanding senior of the 1959 Horticulture Class.”

Her actual work in this field includes a year in the Potato Research Laboratory at Colorado State, one summer with Pan-American Seed Co. and a period of time in the Soil Laboratory of Davis Bros. Wholesale Florists.

LaVica lives where she was born on an 1800 acre ranch southwest of Broomfield with her parents and three younger sisters and a brother. She enjoys reading and is fond of music and horse-back riding. Gardening is, of course, a delight and a must, and on a ranch—doesn't everybody work?

We welcome her to the staff and know that her quick sense of humor and friendly personality will do much to foster the cordial relations which exist between the staff of the *Green Thumb* and the members of the Association.

“The brown autumn came. Out of doors, it brought to the fields the prodigality of the golden harvest, — to the forest, revelations of light, — and to the sky, the sharp air, the morning mist, the red clouds of evening.”

—Longfellow,

“Kavanaugh”

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TULIPS, DAFFODILS AND HYACINTHS are versatile. They fit comfortably into a little corner, or they can be used on a large scale to create mass display effects. Photo courtesy Bulb Growers of Holland.

Experts Recommend Locations For Dutch Bulb Planting

ARE you looking for new places to plant tulip bulbs this Fall? Wondering which varieties will flower into distinctive patterns when Springtime arrives?

Finding your own answers to these puzzlers is half the fun of growing tulips. Bulbs don't have to be placed in the same locations year after year, or colors endlessly repeated.

Like a woman changing her hairdo, planting bulbs in a different way can give your garden an entirely new look next Spring. If you want some ideas about this new garden look, clip out these guides suggested by Dutch bulb experts:

1. Bulbs can be placed in any part of your garden, but determine first

whether they are to be used in mass plantings, groups, or borders.

2. Formal beds of spring flowering bulbs provide masses of brilliant color. But don't plant awkward blocks or a single row or colors. A single line is ineffectual.

3. When in bloom, tulips look best in groups of six, twelve, or more. Sufficient bulbs of one kind should be planted in a group so that a mass picture is obtained rather than a forlorn "dotted effect."

4. Edging garden walks, surrounding a garden gate, or plantings in front of shrubbery make eye-catching spots for tulips.

5. "Naturalizing" bulb planting in the grass, lawn, shrub border or other

locations to imitate Nature has become a favorite pastime of many bulb gardeners.

6. Consider combining tulips with dogwood, cherries, almond and fruit trees for scenic effect. Try ringing an evergreen with a deep circle of brilliant Darwins, for example, using all but the darkest shades for effectiveness.

7. Fit tulips into the scheme of a rock garden.

Surprise yourself next spring with the sheer beauty of tulip combinations. This fall, before frost sets in, plant some of these remarkably beautiful groups:

For a dazzling display place side by

side the Swannenberg variety, a creamy white Darwin, and Queen of the Night, a deep blue-purple that is almost black.

Combine the famous, early-blooming, fantastic color variations of the Kaufmanniana, the waterlily tulip, with deep blue Scilla.

One more exquisite duo is the candystick tulip Clusiana planted with blue grape hyacinth. Left undisturbed, the flowers will multiply from year to year.

Half the fun in the fall is selecting new places to plant tulips and the choosing of varieties. The other half comes in spring, when your "new look" tulip garden comes to life.

Tree rings are not infallible records of the weather in the years when they were formed. It depends partly on the species of the tree. Such would seem to be the inference from records set before the meeting of the Ecological Society of America by Professor Charles J. Lyon, of Dartmouth College. Professor Lyon's studies were made on a number of trees, of six different species, that had grown for years in the near neighborhood of a regularly maintained set of weather-recording instruments. The 1938 hurricane blew them all down, which gave occasion for the study of correlation between their growth rings and past weather records. Closest correlation between spring rainfall and ring growth was shown by white pine, Scotch pine and red oak, but Austrian pine, Norway spruce and European larch showed no consistent agreement with precipitation records of any period. Temperature studies showed almost no correlation whatever when the growing season itself was concerned, but all the coniferous trees gave significant correlations between growth rate and the temperatures in March and April, before the growth starts.

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IT MIGHT AS WELL BE SPRING when these bright crocuses pop up in your garden but even if they jump the calendar, at least you'll know that winter is just about through. Photos courtesy Bulb Growers of Holland.

Look Ahead To Next Spring - Plant Bulbs Now

THE Robin will surely appear in your garden next year — but will there be flowers? The tulips that bloom in the spring have to be planted now, in the fall. If you've wondered how your neighbor manages to have colorful blooms so early, it's because he's planned his spring well in advance. He had to — Nature has arranged things that way.

But Nature has made up for her demands by making it easy to have a spring garden. Tulips, daffodils, hyacinths and other Dutch bulbs are available from many dealers, easy to grow, inexpensive, and rewarding to brown and green-thumbers alike. From now through November you can plant for your own spring flower show.

First step: get acquainted with the different kinds of spring-flowering bulbs. Don't be satisfied with just a big splash of giant red tulips and a few clumps of big trumpet daffodils. There are many other things that you can have in flower ahead of these, and

later too. Why not stretch your Dutch bulb display over two months or more?

TODAY'S HOUSE REQUIRES SPRING BULBS

The role of bulbs in the small home garden is increasingly important, for the garden is as much a part of today's living as any room in the house. Wide expanses of glass in the modern home, combined with the increasing use of the three-level floor plan, make it more than ever imperative to have a garden which is a *real* picture at all seasons, whether it is seen from the usual ground floor level, or from above *and* at eye-level, as is the case today where windows of the three-level are both above and at the soil line.

First, the smaller Dutch bulbs have an important part to play in the drama of spring beauty. Ranging in height from about 3"-10", they make an excellent prelude or foil for tulips and daffodils. Frequently they can carry the scene alone.

For a curtain-raiser, use the white Snowdrop and the yellow winter-aconite, which bloom in February and March. For follow-ups, use the Snowflake or *Leucojum*, which is also white, and the white-centered, starry blue flowers of Glory-of-the-snow or *Chionodoxa* which, as its name implies, blooms in early spring. *Iris reticulata*, a small bulbous Iris, also frequently pushes its royal purple head through the ermine collar of late snows. The Squill, *Scilla sibirica*, is a clear, brilliant blue flower which grows about 4" tall. There is a white variety as well.

Nothing can better make you realize winter is gone than the sight of crocuses in your garden. Be sure to prepare for this experience by planting some. In color, the choice is wide, ranging from white and yellow, through lavender to purple. All crocuses like full sun. Many gardeners plant them in the lawn, avoiding mowing their leaves until they are yellow and ripe after blooming.

The grape hyacinth or *Muscari* is a gay little bulb whose blue or white flowers look like up-ended bunches of



The lovely white Breeders shown are among the many Dutch bulbs which can be planted any time this fall until the ground freezes. This group blooms next May on stems up to 28" high.



PRIZE WINNERS FOR EARLY SPRING are these lovely species tulips which were chosen leaders in their class in the Dutch Bulb Growers' "International Tulip Selections" for 1958. This variety, yellow inside the cup and red outside, is known as "Stresa".

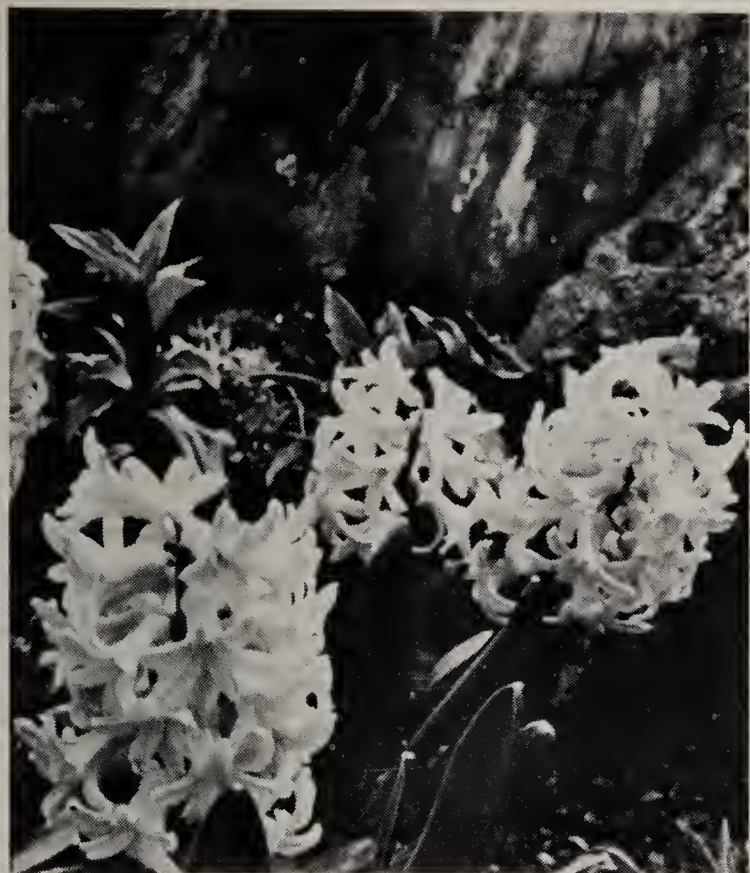
tiny grapes, eight inches high. They bloom with the Daffodils and usually last well into Tulip time.

The major bulbs begin their procession in early spring and continue right through to the end of May—with regional climatic variations. Here are some recommendations to keep in mind, from the Dutch bulb growers, who supply most of the world's spring flowers.

TULIPS

Most spectacular early blooming bulbs are the new hybrids of the species tulips which grow wild in many parts of the world. You plant these in September, October, or November and forget them until suddenly—as the last snows melt into memory—they surprise your eyes with flashes of color. They arrive weeks ahead of the tall May-flowering tulips with which you are familiar, and remain in bloom for a much longer period.

For planting in front of a low wall, Single Early Tulips, Species and Species hybrids are better choices rather than the Darwins and Breeders, which, in most parts of the country, grow to heights of 26 inches or more. Low-



Hyacinths, one of the few flowers that are attractive when viewed from all angles.

growing varieties are ideal in this kind of sheltered location.

Most important rule about tulips is: never put them in single file, like soldiers. Blocks or clumps of four or five are ideal because they provide solid, bright color. Don't be too conservative when you plant them. Tulips need a little room to grow, and spacing the bulbs about six inches apart is ideal.

HYACINTHS

Hyacinths are good in formal settings, their classic role, but are useful for rock gardens. A few clumps of six or eight of these bulbs will tantalize the eye next spring. Blue is the most popular color of this fragrant flower; but you can have them also in pink or white. Hyacinths go well with Fosteriana or Early tulips in beds or groups. Traditionally, they are ideal edging for a garden walk. They are generally planted in the same manner as tulip bulbs: 8-10 inches deep and six apart.

DAFFODILS

These favorites of many a gardener come in almost as many varieties as tulips, and are among the most ver-

satile in the entire garden. They can be planted in beds and borders, blended into rock gardens, used to set off a wall or a tree or any of the blooming shrubs and of course, they can be "naturalized" at the edge of a lawn or in a woodland setting. They are effective when planted at random in a rough setting where the lawn is never manicured or in clumps decorating the front of the house.

Daffodils left in the ground will multiply year after year. A dozen or so planted now will blossom into fifty or a hundred in just a short time. All of the daffodils, with the exception of the Short-cups are planted 8-10 inches deep and six apart. The Short-cups look best when they are spaced five inches apart.

GARDEN BECOMES PART OF HOME

Your next spring can take on new dimensions if you make flowers part of the enjoyment of the real beauty of your home. Many people, for example, edge their terraces with beds planted with bulbs so that their blossoming can be followed from the house, from the first snowdrop right through the colorful procession of bloom until the



DAFFODILS PROCLAIM SPRING—next spring, that is. A small clump of these Dutch bulbs, planted now, will give a golden edge to your spring when the new season rolls around.

late tulips finish the show. Annual plants are then set in among the ripening leaves and are beginning to flower by the time the yellowed, ripened bulb leaves are removed. The little bulbs are set next to the terrace, with medium and taller growing bulbs in the middle and rear of the bed. By spotting your bulbs in clumps in the terrace bed according to their time of bloom,

you can have color near the house from earliest spring onward.

At any rate, dreaming about next spring's flowers won't help to grow them. But if you get out now and dig, you'll be rewarded next year with a burst of color that will make that robin feel right at home when he trills his tune.

L. D. Hammer Employs Turf Expert



Planting new lawns—Fairy Ring—Brown Spots—These are all in a days work for Bill Tavener. Bill is working with Lew Hammer furnishing a complete lawn maintenance service. His

main interest is in helping the home owner develop proper cultural practices as well as providing remedial mechanical and spray applications when necessary.

Bill became interested in ornamental turf problems after receiving the Trans-Mississippi Golf Scholarship for turf study in 1953. In 1955 he graduated from Colorado A and M with a BS in General Horticulture. He received his MS in Ornamental Horticulture from UCLA in 1957. His primary study at that time was concerned with lawn grass culture and maintenance. The past two years he served in the Army as Assistant to the Post Agronomist at Ft. Carson. With this background in turf management Bill hopes to help find some of the answers to lawn problems plaguing Denver home and lawn owners.

S. O. S.

From: Botanic Gardens House

To: Anyone interested in serving as a hostess.

Subject: Hostesses are needed for conducting tours of the house and for answering questions about the garden center. For more information call the Colorado Forestry and Horticulture Association at EAst 2-9656. And please do call. We need you. The Botanic Gardens House is too large for our small staff to handle and still get office work done. Mostly, we can't be two places at once—downstairs and upstairs too—and while it may seem quiet and "un-busy" to you, having someone downstairs helps visitors who would otherwise feel rather lost. So please call us today. One-half day a week is surely not too much time to give to a worthwhile project.

WILD FLOWERS FROM SEED

By HELEN MARSH ZEINER

SOME of our most beautiful and appealing flowers are wild flowers. A number of these can be successfully grown in the home garden, but it takes a certain amount of "know-how." Too many times the hapless plant is uprooted in full bloom and brought from a moist, acid mountain soil to a dry, alkaline plains garden, where it inevitably dies. True, some wild flowers are transplanted with success, but far too often the reverse is true. It has been found, however, that many which do not transplant well can be grown from seed. This method, if one uses care in taking only a part of the seeds, is less likely to reduce the number of plants in the natural location. Transplanting, along with indiscriminate picking, has been a factor in destroying our natural wild flowers. Seed gathering can also reduce the population; therefore, seeds should be gathered only if the plants are abundant, and never, never should all the seeds be taken.

There are a few rules to remember if you wish to try to grow wild flowers from seed:

1. Know your flowers. To be able to recognize them in bloom is not enough. You must also be able to recognize the seed pods.

2. Know the requirements of the particular flower you wish to try. If it grows naturally in a shaded wood, it is not likely to be happy in full sun in your garden. For example, our lovely Colorado columbine may survive in the sun, but its blossoms will fade badly. If it is a plant growing in a very moist situation, it will require moisture in your garden. Remember that plains plants are used to an alkaline to neutral soil, but the mountain plants require a more acid soil. These are common sense observations; you

apply such rules to the cultivated plants you try, so also apply them to any wild flower you bring to your garden. In a suitable situation and under cultivation, the wild flower you planted may be bigger and better than it ever was in its natural habitat where it grew with no care and probably under strong competition from other plants.

3. Take only fully ripe seed. Immature seed cannot be expected to grow.

4. In planting the seed, it is often best to duplicate nature as closely as possible. Seeds of perennials should be planted as soon as they are gathered. Some of these will germinate and become established before frost. Others require freezing or a longer maturation period and will not germinate until spring. Annuals may be planted in the fall or in the spring. Planting in the fall more nearly duplicates nature, but do not plant too early, or under the "ideal" conditions of your garden—primarily an adequate water supply—the seed may sprout in the fall and the young plants freeze. Most wild flower seeds can be planted in open beds, although some of the more delicate may best be started in a cold frame or other protected situation.

Many wild flowers have been grown successfully from seed. A few among the many are: *Mertensia* or chiming bells, columbine (some garden clubs handle this seed), *Tradescantia* or spiderwort, wild phlox, mariposa, *Penstemon* or beardtongue (among the most successful and a good bet to try because they are plentiful), *Iris*, prickly poppy, *Liatris* or blazing star, *Artemisia*s, wild geraniums, evening primroses, golden banner, cone flowers, asters.

Those who are fortunate enough to have mountain cabins have an ideal

location for naturalizing many of our wild flowers, and may find them more successful than their cultivated relatives. Others, with conservation in mind, may find it rewarding to reseed native areas, where the plants can naturalize and replace what man has at some time in the past destroyed.

It is not always necessary or advisable to gather your own seed. Some nurseries and seed houses now carry wild flower plants or seed. A pioneer

in this line is Rex Pearce, Morristown, N.J.

If you are interested in trying your hand at raising wild flowers from seed, you will find the following articles helpful: *So You Love the Wildflowers*, Florence W. Myers, July 1948 Green Thumb; *Wild Flowers Suitable for Cultivation*, L. J. Holland, July 1948 Green Thumb; and *Native Flowers of Garden Value*, L. J. Holland, September 1950 Green Thumb.

GARDEN CLUB BRIEFS

By MRS. EDMUND WALLACE

Mrs. James Tillotson has announced the forming of five new Garden Clubs which were accepted by the Federation of Garden Clubs at the last State Board meeting. The Cherry Hills Garden Club, the Rosebud Garden Club, and the Mile High Corsage and Arrangers Club were added to the Central District, and the Peetz Garden Club and the Woman's Garden Club of Sterling were added to the Northern District.

We are pleased to announce that Mrs. Jay Travis of Belmont Heights Garden Club, a member of the National Chrysanthemum Society, wrote an article, "Growing Chrysanthemums in Denver, the Mile High City," for the Society's National Bulletin. Look for her article on hardy chrysanthemums which will appear in a future issue.

For learning the latest in good horticultural practices and what is new in the art of flower arrangement, a day or two at the Flower Show School is time well spent. Anyone is welcome to attend the lecture on Flower Arranging, September 15, or on Flower Show Practice and Horticulture, September 16. The lectures on Flower Arrangement and Flower Show Practice will be given by Mrs. Delia Franklin Castor of Ponca City, Oklahoma. Mrs. Earl Powell of Roswell, New Mexico, will give the Horticulture lecture. The tests for Course III of the Flower Show School will be given on September 17. The three day course will be held at the Botanic Gardens House at 909 York Street. For further information contact Mrs. L. J. Woodman, 3985 South Pennsylvania, Englewood, state chairman of Flower Show Schools, or Mrs. C. C. Buckbee, 4190 Depew, local chairman.

September 29 and 30 and October 1 are the dates to save for the State Convention of Federated Garden Clubs to be held at Idaho Springs with Headquarters at the Hot Sulphur Springs Hotel. This year's theme, "Prospectors, All of Us," will be in keeping with the Pioneer Year of '59. Mrs. Jamie Johnson of Michigan, National President, and Mrs. Lowell Storm of Wyoming, Regional Director, are among the expected guests. Mrs. Elmer Mitkin, Sleepy Inn Motel, Idaho Springs, is chairman of what promises to be an outstanding convention. Plan now to be there.

Native Plant Material for Dried Arrangements

The following information is taken from "The Complete Book of Dry Arrangements," by Rae Miller Underwood, and "Drying Flowers for Color," by Sarah Whitlock and Martha Rankin.

General Directions: Gather seed pods, berries, cones, fungi, and driftwood when dry and store. Cut fresh material on a dry sunny day; foliage at any stage, flowers in their prime. When dry store in boxes and label.

Hanging Method: Strip leaves, tie material in small bunches, and hang upside down in a cool, airy, dark place 2 to 3 weeks. Experiment with any interesting material. Listed here are some satisfactory varieties:

Grasses	Sage	Sulphur	Globe Thistle	Chives
Grains	Golden Rod	Yarrow	Hydrangea	Many others
Roadside weeds	Mullein	Teasel	Gypsophila	
Dock	Cattails	Celosia	Statice	

Borax Dried: Blend 6 parts of cornmeal and 1 part borax. Cut stems short, insert fine wire through calyx. Bury flowers, head down, sifting the mixture gently through the petals in their natural form, barely cover. Leave in the mixture 2 to 10 days. Good for all colors except red. Experience is necessary. Try these and any others:

Carnation	Delphinium	Rose	Pansies
Celosia	Hollyhock	Shasta Daisy	Gladiolas
Daffodil	Larkspur	Zinnia	Scabiosa
Dahlia	Lilac	Sweet Pea	Centaurea

Oven Dried: Use fine white sea sand sold as ceramic sand. Place in baking pans, as in the borax method, bake 6 to 8 hours at 90 degree temperature.

Glycerin Solution: Mix 1 part glycerin with 2 parts water. Use freshly cut leaves. Place only the crushed stems in the solution. Remove when the leaves change color and become glossy. This requires 4 days to 2 weeks using thick leaves such as lilac, apple or plum, and kinnikinnick. Most foliage should be pressed between newspapers, weighted, or in a heavy book.

Arrangements: Use as fresh material. Due to shrinkage and breakage more is needed. Pin holders, plastic clay, florist's tape, wire and florist's picks will be useful. In deep containers fine sand will hold the stems securely.

Wall Plaques: Secure material with DuPont's household cement; when dry, apply clear shellac.

Picture Under Glass: Shadow box or convex glass, DuPont's cement.

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IRIS PLANTING IN THE BOTANICAL GARDEN

By MRS. HOWARD HOUSLEY

Denver's new Botanical Garden is beginning to look like a garden! Behind the beautiful new fence the local chapter of the American Iris Society has begun planting the iris beds. Working under the supervision of Dr. J. R. Durrance the Planning and Planting Committee consisting of Loren Creese, chairman; Mr. and Mrs. J. O. Riley, Wm. Slensker and Mrs. H. G. Housley, has been assisted by Vernon Creese and Donald Roose, landscape architect for the Denver Public Schools. The plans include large curved beds around a center circle.

The first planting consisted of recent varieties of Tall Bearded Iris, including many of the very newest introductions. Most of these were contributed by Dr. Durrance and members of the committee. Outstanding growers and hybridizers, both local and from all over the country, will be contributing plants in the near future. Their donations will consist of their newest introductions and rare species. A more detailed report about these will be forthcoming in the Green Thumb in a subsequent issue.

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DENVER BOTANICAL GARDENS

By FRANCES NOVITT

The new herbaceous unit of the Botanic Gardens is now beginning to show results of the intense activity which has been going on there since ground was broken on March 23. The chain link fencing around the sides and across the back of the area has been completed, and the ornamental wrought iron fencing across the front is being installed at present. Two stone gateways have been built through which visitors will enter the garden. A curving brick walk has been completed. This begins at the main entrance to the garden, near the concrete York street sidewalk, and follows outside the curving wrought iron fence south to the second entrance, which will give access to the garden through the future auditorium building.

Near the second entrance, a high stone wall has been completed, which bears the name "Denver Botanic Garden" in wrought iron letters, clearly seen as one drives south on York Street. In the future, this high stone wall will be part of the enclosure for a walled garden, which will be directly north of the proposed auditorium building.

A low curving wall joins this entrance gate to the enlarged concrete parking area behind Botanic Gardens House. A wrought iron fence set on top of a low stone retaining wall will separate the parking area from the main area and will complete the enclosure of the main garden itself. Outdoor flower shows will be held in the parking lot, which, at such times, will be closed to cars, and will have portable canopies overhead.

The main walk system for the garden has been completed, and the automatic sprinkling system is nearly finished.

The rose garden was planted in May by the Denver Rose Society. Bad weather delayed the planting of the annual beds, and even eliminated several of them entirely, but in June two large beds were planted west of York Street, in front of the main area. Annuals were planted also in the garden of Botanic Gardens House itself. Later on this season, the establishment of a lawn will put the finishing touches on the development of the front part of the main area, west of York Street.

In the strip of land between York and Josephine Streets, preliminary grading for the parking lot has been completed, so that the automatic sprinkling system can be installed.

The name "Botanic Gardens House" has been placed over the entrance to the House, in wrought iron letters perfectly suited to the architecture.

PROGRESS AT THE B

PHOTO



Upper left: Part of 250 roses
Even though planted under very
doing well.

Upper right: A view of the entrance
Botanic Gardens House. The area
original planting and although
has been left for its future growth.

Lower left: The main entrance
brick walk and wrought iron
entrance.

Middle: Closeup view of the
formerly elevator doors, were
Durrance.

Lower right: Flashy annuals
form an attractive view along



TANICAL GARDENS

PAT

in the new area this spring.
It conditions they seem to be

arking area at the back of the
in the center was part of the
led by concrete, ample room

arden area showing the curved
tending up to the secondary

entrance gates. These gates
to the gardens by Mrs. Stella

y the ornamental iron fence
k Street side of the gardens.



Centennial Musings on Agriculture

By LILYGAYLE FLEISCHER

NEWLYWEDS experience the thrill of adventure when they tour residential or urban districts in search of a home of their own. Seeding a lawn or planting a garden heightens the joy of working together for a common goal.

Delay in realizing their desire may blind them to the lure of new adventure though it may be just around the corner.

I'm sure I, as a newlywed and a newcomer to the west, would have welcomed the knowledge that the wife of Pueblo's first agriculturist had spent part of her later years, just a city block away from my temporary home, for history and geography had always been my magic carpet.

If the resort-seeking residents of nearby towns ever noticed the house on the hill above the Crowe General Store and Post Office on Greenhorn Creek, they attached little significance to its location or the part it played in the early history of the county and state. After all, it was only a long

row of rooms fronted by a door to each room—hardly the type of residence the newly-wedded teen-age daughter of the former first Territorial Governor of New Mexico would occupy!

Estefana Bent Hicklin was the daughter of Charles Bent and Maria Ignacia Jaramillo, a sister of Kit Carson's wife. She was born at Fernando de Taos, New Mexico on August 3, 1840, or there-a-bouts, the youngest sister to Alfred and Teresina.

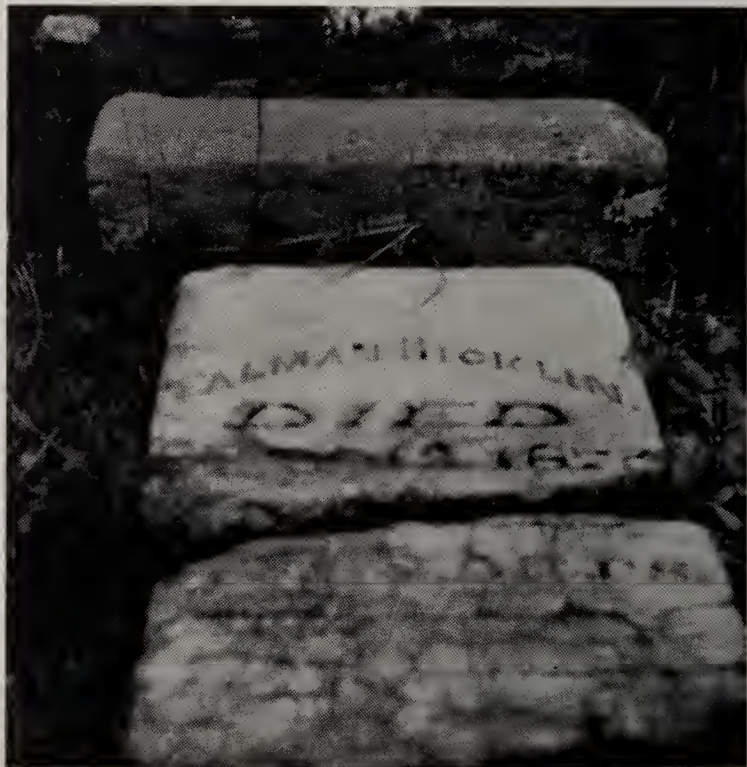
She was only six years old when her father was killed and scalped in her presence during the Taos massacre on January 19, 1847, while he was visiting his family in Taos, his official residence at the time being Santa Fe.

At sixteen she married Alexander Hicklin, a Missourian who had come up from Santa Fe. The marriage was performed by Father Martine of the Catholic church at Taos.

Her husband, "Zan," as he was familiarly known, took advantage of the offer of free land and he and his



The Fleischers recently visited the site of the Hicklin home and found it razed. The old Crowe General Store pictured above still serves as a landmark. Searching the area they found the old family cemetery with several broken headstones. The one pictured, still legible, marks the grave of one of Hicklin's sons.



wife took possession of the lands on the Greenhorn in the fall of 1859. These acres were known as the Vigil and St. Vrain Land Grant which dated back to 1843 when they were awarded to Cornelio Vigil and Ceran St. Vrain in consideration of their services to the governor of New Mexico and their representation that it was their purpose "to encourage the agriculture of the country to such a degree as to establish it in a flourishing condition."

This deed also stated that it was understood that the makers were "to give to such families as may transport themselves to said place, lands free of charge of settlement subject to the guarantees and benefits to each party as may be agreed upon."

On the 11th of March 1844, Vigil and St. Vrain signed a deed of conveyance ceding "to Mr. Charles Bent, and to his successors, the 1/6 part of land contained in our possession at said place, to which we hereby renounce all our rights."

Zan took advantage of his wife's relationship and filed a petition in her behalf with Surveyor-General Lesig on June 7, 1869, claiming her "as an active settler," and by purchase from Colonel St. Vrain "a tract of land lying on the Greenhorn and its branches" represented that she "had settled upon said land in 1859 and resides upon the same."

Of the 10,000 acres granted Hicklin by the Mexican governor the U. S. authorities confirmed 6000 acres in the old Huerfano County, and this little community of 15, mostly Mexican peons, was first known as Hicklin. Its present name, Greenhorn, was derived from the creek and the nearby Greenhorn mountains, both of which were named for Cuerno Verde a Comanche chief who was killed in 1779. It never became a town and was never platted nor incorporated, but always remained a scattered community.

It was thought that other early pioneers had occupied this site before

the Hicklins arrived. A mill had been run by water power developed by the little stream, and it is supposed that Hicklin used the ditch which conducted water to the fields cultivated by forgotten pioneers.

Zan was considered one of the most extensive stockholders and farmers of his time and was recognized as a man able to do business in business-like ways though he could neither read nor write, only sign his name. He raised immense quantities of grain, for the Rocky Mountain News of June 26, 1868 contains this item among *Agricultural News*: "On Zan Hicklin's ranch on the Greenhorn is the following crop: Corn, 175 acres; wheat, 175 acres; oats, 75 acres; beans, 40 acres; buckwheat, 15 acres; total 480 acres."

He accumulated large sums of money and spent them in the free and easy manner characteristic of western barons. His home was a renowned stopping place for travelers for his genial good humor and kindness of heart endeared him to many.

However, he had his peculiarities. Once, he demonstrated his dislike for pomp and show when a gold-braided, bedecked army officer came to spend the night. Zan instructed his Mexican cook to serve beans and pepper sauce at the meal. The officer refused the beans with a polite, "No thank you, I don't eat beans." Zan replied, "Then help yourself to the pepper sauce." (Strange that Zan's wife should spend her last years in "Pepper Sauce Bottoms").

Another traveler, Ruxton, by name, camping under some tall cottonwoods after a difficult ride down the mountain pass had this to say:

"On a bluff overlooking the stream I had the satisfaction of seeing two or three Indian lodges and one adobe hovel of a more inspiring order. As we crossed the creek a mountaineer on an active horse galloped up to us, his rifle over the horn of his saddle, and

clad in a hunting shirt and pantaloons of deer skin, with long fringes hanging down the arms and legs. As this was the first white soul we had seen since leaving Red River, we were as delighted to meet a white man (and him an American) as he was to learn the news from the Mexican settlements. We found here two or three hunters, French Canadians, with their Assiniboine and Sioux squaws, who have made the Greenhorn their headquarters, and game being abundant and the rich soil of the valley affording them a sufficiency of Indian corn, they lead a tolerably easy life, certainly a lazy one, with no cares whatever to annoy them. This valley will, I have no doubt, become one day a thriving settlement, the soil being exceedingly rich and admirably adapted to the growth of all kinds of grain. The Prairies afford abundant pasture of excellent quality and stock might be raised upon them in numbers. Already the plow has turned up the soil within sight of Pike's Peak."

Zan's love of liquor brought about his death in 1874. With characteristic humor he asked Estefano to put a bottle of liquor in each pocket "to treat the boys."

His beautiful Spanish-American widow, possessor of many sets of the most gorgeous silk gowns and many sets of expensive jewelry, was unschooled in the practice of business and law and began to lose her inheritance piecemeal.

Squatters were the bane of her existence and one in particular brought double tragedy upon her. A man by the name of Phillips jumped one of her hay ranches, but it had been agreed

that they would stack the hay and leave it until it was decided by law who should have it.

But Phillips, a former U. S. Marshal and a Mason who had always been considered a peaceful man, indulged in too much liquor and yielded to the urgings of other squatters to seek revenge. When Estafano's two oldest happy-go-lucky sons approached the fields in the morning they noticed another wagon nearing them bearing Phillips and a driver. Phillips opened fire on the unarmed boys without a word of warning and Alec, who had had a premonition of death in a dream, died within a few moments, leaving a wife. Tom lingered between life and death for weeks and though he recovered to live for a few more years after his wife and daughter left him, he never regained perfect health. Phillips was spirited away to the jail in Pueblo to escape a lynching. He was sentenced to several years and lived only a short time after his release.

Estafano, heiress to 6000 acres of the richest lands in Huerfano and Pueblo counties, lost the rest of her property about the year of 1890. By 1900 she was penniless and went to live with neighbors, the Rices, at their ranch home on the Huerfano. She later accompanied Mrs. Julia Rice and her sister-in-law, Mrs. Smith to their Pueblo home at 313 West 4th Street, only a few blocks from the center of town.

Sarah Williams Moon declares Estafano died at the home of neighbors on West 4th Street, while the Walsenburg newspaper states she died at Walsenburg, leaving one son, Alfred, who resided at Victor.

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This year not only marks the Centennial of the Gold Rush, but it also marks the centennial of the settlement on the Greenhorn by Pueblo County's first agriculturist. Yet Ruxton's prediction that "this valley will . . . become one day a thriving settlement" has not materialized. The new super highway by-passes this spot and summer residents now reside or build homes in the mountain town of Rye, 10 to 15 miles beyond, where the mountain "Old

Baldy" of the Greenhorn mountain range keeps watch through the centuries over the many residents and travelers who seek its domain to enjoy nature at her best. But who knows, perhaps this old monarch harbors the secret destiny of another newly-wedded governor's daughter who will come to reside in "his" territory. And perhaps the next Centennial will reveal a happier ending.

LEGEND OF THE SHOOTING STAR

A young Indian brave, of the tribe of Cherokees, had tried without success to win the favor of a beautiful maiden.

"If I bring you a star from the heavens, will you marry me then?" he asked. The maiden, astonished, said that she would. She felt secure in her promise, for how could he possibly do that?

Word spread through the tribe, and even to neighboring tribes, that the young brave would shoot a star from the heavens. The time was set for a night when the moon would be full. Many persons came to watch, and perhaps to jeer when the attempt should fail.

Slowly and carefully, before the assembled crowd, the young man aimed his arrow into the sky and released it. Fast it sped toward a star high in the heavens.

The Great Spirit was watching, too, and was angered at seeing what this rash young mortal dared to attempt. A dark cloud passed over the moon, dimming its light on the earth. The watchers saw that out in space a star dropped from its place in the sky and fell toward the earth, followed by a trail of blue-white light. It came to earth where the young brave stood. When the cloud passed and the earth was again bathed in the light of the full moon, it was seen that the young brave was gone.

Growing on the spot where he had stood was a small downward-pointed flower, with petals trailing backward. The Indians called it "Shooting Star."

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SKyline 6-9627

Amelia Huntington, Mgr.





The old Leonard cottonwood as it appears today at 100 Humboldt Street.

NATIVE SON

By the late J. A. BIXBY,

Former City Forester for Denver

NATIVE cottonwood trees in Colorado, both male and female (staminate and pistillate) are considered the most beautiful cottonwood trees found in any of our western states, and are classified A I A by all foresters who are familiar with the *Populus* varieties of native shade trees.

Male and female cottonwood trees are found in all gulches, rivers, and springy places of moisture in this state, and are almost as sturdy as the aging hills and mountains in the background.

The female cottonwood tree sheds cotton and seed, but the male is a barren old duffer. Both are popular as nesting places for doves, orioles, woodpeckers, and flights of springtime Arctic songbirds. Even hoot owls, magpies, buzzards, crows, and blackbirds love the friendly sheltering limbs.

Yes, and cowboys and nomadic Indian tribes sought shelter at the cottonwood's base, using it for war councils, and as a night herd rendezvous.

One old giant, called the Leonard cottonwood, is more than 200 years

old, and stands at 100 Humboldt Street across from the Denver Country Club entrance. This friendly cottonwood shed its leaves for humus on the spud fields of "Potato" Clark, who had a ranch there from 1860 to the early 1870's. Mr. Clark harvested and sold spuds to miners in Central City and up in Russell Gulch for a fortune in gold dust and gold nuggets, and then returned to his winter log cabin beside this now famous old tree at 100 Humboldt Street.

Its friendly limbs spread more than 85 feet, while one old rustic limb whispers a chant in the still watches of the night about a renegade Mexican horse thief who was strung up on it for running his Mexican horse brand on pioneer cow ponies and maverick calves. One hundred years previous to Denver as a pioneer settlement, this mamma cottonwood stood council for Sioux, Utes, Cheyennes, Navajos, and nomadic Indians on the war path.

The late Mr. Leonard, owner of the 200 year old tree, saw the beauty of the female giant, and spent \$600 for a tree surgeon under the direction of Forester Bixby, so that the female cottonwood might live another 200 years on the banks of Cherry Creek to



Close up of the Leonard cottonwood showing one of the cemented wounds and a bracing cable.

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record more history of Denver Beautiful. The Leonard cottonwood had 1700 pounds of Portland cement poured into the center cavity and the roots, together with 350 pounds in limb cavities, cementing it like a dentist's fill in a decayed tooth stump. Then the boys strung 340 feet of steel cable from trunk to sagging limbs so that they might balance, symmetrically, the 200 year old sagging female figure. Anyway, go to 100 Humboldt, and see old Mother Cottonwood for yourself.

Cows and calves, cowboys and perhaps, cowgirls, squaws and bucks, and mating songbirds have all been there in the still watches of western nights, and on days of rosy dawns and mystic sunset hours. May this Mother Cottonwood live on through the silence of two more centuries under the evening shadows of the restful Rockies.

There will be no more night watches of cowhands and Indian camps under its shelter, but may this true story bring hundreds of tourists and school children to the banks of Cherry Creek, across from Denver's beautiful Country Club during this Centennial year in Colorado.

The Green Thumb is celebrating Colorado's Centennial each month with an article of historical interest. Because our magazine is published in Denver, these tend to concern people, events, and things in and around this city, but Centennial embraces ALL of Colorado. If anyone knows an authentic story or legend about trees, plants, or parks in other parts of Colorado, we would be more than pleased to print it.

P.S. The age of the old cottonwood in the story might be slightly exaggerated.

SUN GLARE REDUCED BY HIGHWAY TREES

Planted trees strategically placed along slightly curving highways will greatly reduce sun glare on east-west highways at the time of the day when the sun shines most directly into the eyes of motorists.

While there are no statistics to show how much of a factor sun glare is in relation to accidents, it is stated, it definitely tires motorists and causes headaches when driving for extended periods into the face of the sun. A few trees planted where existing roadside vegetation or land contours do not obscure the sun in the early morning or late afternoon improves driving comfort immeasurably, it is said.

JOHN VAN WYK

LANDSCAPING

New Lawns - Planting - Trimming - Maintenance

SK 6-0789

2101 SO. ADAMS

Flower Arrangement for the Beginner

By MRS. J. A. SEASTONE

Federated Garden Club

Flower arrangement is a creative art but it needn't frighten beginners.

Beautiful flowers demand beautiful settings and intelligent treatment. Flower arranging merely means placing flowers in containers in a way that shows them off to best advantage for the place we plan to use them.

Remember, though, any amount of study is but a beginning. The "expert" hasn't a mystic power that sets him or her apart, only more knowledge and experience. Develop your creative ability and enjoy your flower arranging. It is the icing on the cake.

Basic steps for making an arrangement are: planning a design, selecting a container and other mechanical media, and choosing and hardening flowers and foliage. Then color harmony and grouping must be considered.

In planning your design, consider its purpose. Is it to be used in flower show competition, a specific location in a home, or is it for church? It will be beautiful only if it is suitable for the place or occasion.

Here we consider the time-honored principles of design: balance, dominance, contrast, rhythm, scale, and pro-



Gather flowers early in the mornnig. Put in water to harden.

portion. We use these every day in other fields. Learn to apply them to your flower arranging.

Harden flowers by cutting them early in the morning or late in the evening. Place them in a deep container of water at room temperature, out of a draft, for at least two hours—overnight if possible. This is a general rule.

Woody-stemmed material can be split or pounded to allow more water to enter the stem. Stems which exude a sticky sap should be seared over a flame and if cut again, resealed.

Foliage often holds up better after complete submersion for several hours.

We will now plan a triangular arrangement employing three heavy spiked leaves from the sanseveria or iris, eight deep yellow or gold carnations, five pothos leaves, and a few small rocks. This simple arrangement will be suitable for use on a fireplace mantle, television set, hall table, or on a dining table.

A beginner should choose a simple, low container, about six by ten inches. The container must be clean and dry.

Select a medium-sized, heavy pin holder which is fastened with floral

clay to the container. Roll the clay into a long, narrow roll. Place this roll on the bottom of the holder along the outside edge, leaving the center free. Fasten the clay firmly by twisting the wrist slightly. It will hold indefinitely.

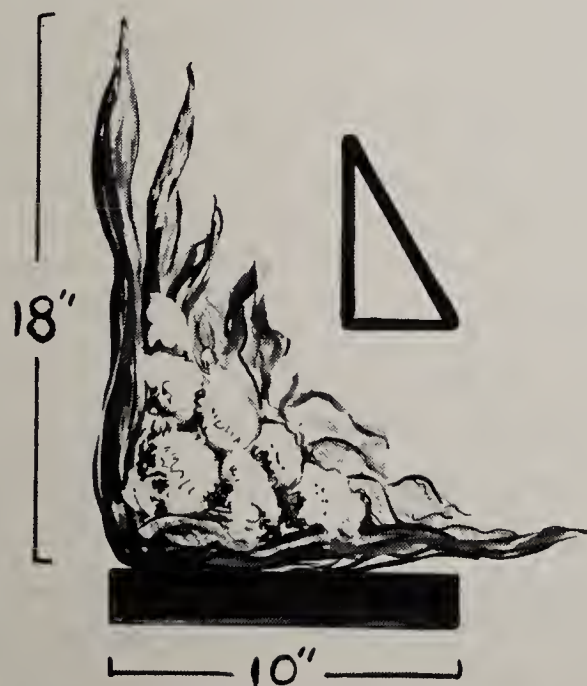
Place the holder in the container about an inch from the left side and a little closer to the back than to the front.

The highest point or piece of the arrangement will be placed first. If the container is ten inches long, a high point of fifteen inches would be satisfactory, eighteen inches would be better. Place the piece of spiked material in the center of the holder, nearly at the back.

Place another spike, at least six inches shorter, to the left and front, thus strengthening the main line of design and adding interest.

A third sanseveria leaf will form the third point, completing the triangle. Place this spike in the right front corner extending its tip one to two inches over the edge of the container for good balance. The line formed by the third leaf should point to the right front corner of the container.

Now we have our basic pattern—the skeleton or backbone of the arrangement.



The completed arrangement discussed in the accompanying article.

Since the container is yellow-green and the sanseveria a deeper green and yellow, we will use variegated pothos leaves as fill-in material. Choose the yellow-marked leaves, not the white.

The pothos leaves will help create a feeling of depth—of looking into a picture. To add depth, each pothos stem should be a different length and should be placed at a different point on the holder.

Place three pothos leaves, graduated in leaf size, on the left side of the arrangement, the smallest leaf at the highest point. Use at least two more leaves, slightly larger, following the line at the right and pointing toward the front.

Now for the flowers. Place one of the smallest carnations, about six inches high, directly in front of the first main line. (All measurements are approximate.) If there were buds we could go higher.

Place another carnation, a bit shorter, to the left. (Make your first cuts small; you may need to trim again.) Now turn a shorter-stemmed carnation to follow our right line. Two more flowers, shorter and of different lengths, placed toward the front will tie the arrangement and container together. Let the lowest flower hug the edge of the container.

The flowers are the center of interest and while they should not look crowded each blossom should look a part of the whole.

Turn your arrangement from side to side, checking for a graceful arc from the tallest point to the lowest flower. If there is a receding leaf or flower, make a better placement.

The back of the arrangement at this point looks unfinished. Three more flowers of different lengths placed low in back and on either side of the main line will add depth.

If the pothos leaves refuse to cooperate, scotch tape a short length of

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wire or Twistems to the back of a *dry* leaf. It can then be bent to suit your need. One more leaf may be placed under the lowest flower if it pleases you.

Cover your holder with a few small rocks. This will not spoil your design.

Now we have a finished arrangement using the principles of design. Place it where the color harmonizes with the room.

We could get the same design by using only six flowers, placing only one carnation in back plus two more pothos leaves. However, use of the flowers in back creates an illusion of

greater depth and is more pleasing from the side.

Learn to master a few of the basic patterns then go on to more difficult assignments, including expressive design—an idea or emotion translated into visual form.

Anita Stelle in her book "Seven Keys to Distinction" says, "Genius may be only one per cent inspiration, the other ninety-nine perspiration, but like the yeast in bread or the switch on a motor, that important one per cent sets things in motion."

So, set things in motion and try flower arranging. It is a personal aesthetic experience.

WHO TENDS A GARDEN

*Who plants and tends a garden, somehow learns
a quietness that only earth has held,
a patience shown by green that still returns
although the mother-tree has long been felled.
Who plants a garden learns to hope and wait
for rain and sun and earth to do their tasks.
The flowers will bloom, although the Spring be late.
The harvest, any day, is all he asks.
And he who tends a garden sees the slow,
the gentle, circle drawn by Nature's plan —
from seed to flower to seed — the seasons go,
and catch within that orb the lives of man.
So, quietly, a gardener may face
that circle set, in which he takes his place.*

by Elizabeth Demaria, Denver
Courtesy Empire Magazine, Denver Post

MEMBER



Careful Maintenance of Shade Trees

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HAIL THE LOWLY RHUBARB!

By HELEN MARSH ZEINER

In this Centennial year in Colorado, we have become much interested in pioneers and descendants of pioneers. We are so concerned with the people who came to Colorado that we are apt to completely overlook the plants they brought, some of which have survived, become established, and are as firmly rooted in Colorado as the descendants of any pioneer.

One of these plants is the common rhubarb, *Rheum rhaponticum*. The pioneers who brought it west no doubt called it "pie plant," and exceedingly good "pie timber" it was. This hardy plant could stand the long trek across the plains, and how many roots must have made that difficult trip. Planted near the cabin of its owner, the pie plant was soon at home. As it thrived, the roots were divided with other settlers who were neighbors. Rhubarb would grow almost anywhere—on the plains, in the foothills, in the mountains, even at timberline.

Today many pioneer homes are completely gone or are only crumbling foundations, but the pie plant is still there. Harrington, in his *Manual of Plants of Colorado*, says "This is a cultivated species sometimes tending to escape or persist in vacant lots and fields. It has been found growing in the Colorado mountains away from any dwelling but the plants may have been originally set out by someone." I think it is very probable that these plants were set out by someone whose dwelling, never a very sturdy structure, has long gone and left no trace—only the rhubarb to mark where it might have been. Rhubarb is sturdy stuff. Not long ago I found a healthy patch growing by a tumble-down stable in a tumble-down town just at timberline. No one had lived in this town since the early 1900's, but the rhubarb had survived in complete neglect under most extreme conditions. In more suitable locations, old home sites are often marked by a rank and luxuriant growth of pie plant.

In these high altitudes with little native fruit, how welcome the rosy sauce and juicy pie must have been to the weary miner at the end of his long day. We often tend to look down on rhubarb, but this commonplace little plant served a useful place in pioneer history, and many times has survived over great odds. Hail the lowly rhubarb!



Wood PeeWee



Photos courtesy Jackson & Perkins Co.

Bob White

NEW BIRD MUMS

SINCE before the birth of Christ the chrysanthemum has been the oriental symbol of longevity and human perfection.

In America it is a symbol of Autumn—a period when the countryside is clothed in warm browns, reds, yellows and even pure white. And because its prolific blooms paint the garden with vivid splashes of color, it is also a symbol of plenty.

Over the years, plant scientists have busied themselves with each of the basic traits of the chrysanthemum trying constantly to introduce new perfection into species already nationwide favorites.

E. S. Boerner, plant research director, of the Jackson & Perkins Company at Newark, N. Y., has developed a new strain named the Bird Series (each plant bears the name of an American bird.)

Before public introduction each of the new varieties must pass a stringent test. First, it must be winter hardy. Second, and equally important, it must

grow flowers of extra large size, and continue to produce them in great profusion. A variety must also possess a distinctively new color and must be a good cutting plant so that home owners may harvest armfuls of blooms for indoor use.

With these criteria as his starting point, Mr. Boerner has created in the Bird Series, plants which include all the basic mum colors and which lend themselves ideally to landscaping the home as well as for use in the flower garden.

This spring six new varieties will become available to home owners and each one has passed with flying colors all the tests required of the famous Bird Series of chrysanthemums. Their names are:

BOB WHITE — Its large decorative five inch double flowers are sharp white with a soft cream center. Blooms appear from late September until frost. The plant is hardy and the dark green foliage is very disease resistant.

CHIMNEY SWIFT — The full Burgundy red flowers remain with them throughout their life. The flowers average 4½ inches in diameter which is large for this color range. The medium tall plant is compact and has shiny dark green foliage. Blooming time is from early September until frost.

YELLOW WARBLER — A large shaggy type of flower, 5 to 5½ inches in diameter, its color is a golden butter yellow with deeper shadings in the center. Blooming time is from September until frost. The plants grow upright, of medium height and have excellent dark green foliage.

WOOD PEEWEE—A decorative type chrysanthemum with a lively pink color, its flowers are 5 to 5½ inches in diameter. The plant grows to about 20 inches and is bushy. Blooming time is from September 30th to severe freezing weather. This color is brand new and makes a striking showing both in the garden and indoors.

Cut flowers keep easily 10 days to 2 weeks.

VIREO—Its 4½ to 5 inch flowers are a radiant apricot-orange. Plants are in bloom from mid-September until frost. One of the newly developed medium height mums, it does well in a foreground planting. Buds and flowers follow each other constantly providing a continuous show of color.

SANDPIPER—One of the largest of the Bird Mums, its decorative flowers are 5½ inches in diameter. They have the lovely pastel shade of strawberry bronze and bloom from September 20th until frost. The plant is of medium height and the foliage is a dark, rich green. Flowers are plentiful.

Plants of these new varieties if put in the garden this spring, will produce masses of flowers in the garden next fall.

Ed. Note: We hope that someone in this area will try some or all of these plants next year.



Chimney Swift



Sandpiper

LETTERS TO THE EDITOR

Weed Spraying

Editor:

It is time that the citizens of this great, beautiful state of ours get up on their hind legs and protest the terrible defacement of our highways by the unnecessary spraying of plants along the highway shoulders with weed killer chemicals.

In the past few weeks, I have seen these spray rigs loaded with 2, 4-D, manned by half-asleep operators driving along our beautiful highways and mechanically hitting everything in reach of the spray. In a few days, once beautiful flowers are withered, shrubs have blackened sides and trees withered branches.

If this spraying did any considerable good or saved the taxpayers any considerable money, it might be excused, but in most cases, all it does is leave a line of half-dead shrubs along the highway to greet the visitors to our state whom we have spent money to invite.

The shrubs are still there, but now ugly instead of beautiful. They were not interfering with the maintenance or operation of the highways, just growing there trying to hide a little bare ground and provide a little beauty. Even the shrubs planted many years ago in the too-short highway beautification program are being hit and half-killed!

At the same time of this spraying of valuable plants, a little farther along the road may be seen large patches of poison ivy, nettle, poison hemlock, thistles and others, growing in luxuriant vigor. These are the plants that the powerful weed killers were made to control.

There really must be—sometime—a law to control this needless and careless handling of these powerful chemicals and allow only those who are

trained and who know the difference between noxious weeds and valuable plants, to apply them.

This situation brings forcibly to mind what I have emphasized for many years, that there should be someone in our State Highway Department who has more feeling for the appearance of our highways than just to provide a smooth driving surface.

George W. Kelly
4849 S. Santa Fe Dr.

Dear Fred:

How nice of you to write me and give me such a lot of welcome "news" of Denver and the horticultural group! Indeed, I shall be only too happy to submit to The Green Thumb, later, my reactions to California plants and planting. When 100 Kinnikinnick arrive from a *Massachusetts* (!) nursery, and are planted, my initial landscaping will be complete. I have a group of jaw-breakers that I am trying to commit to memory, and when not going over those names I sprinkle, sprinkle, sprinkle the new lawn that is just showing a delicate green fuzz.

We have *no* smog here. We are midway between Los Angeles and San Francisco, at a place right on the ocean called "Sunset Palisades." Although our postoffice address is San Luis Obispo, we are 9 miles from it. When I send in my "observations" I shall include a picture.

Sincerely,
Bob More

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Seasonal Suggestions

"There is a beautiful spirit breathing now
Its mellow richness on the clustered trees,
And, from a beaker full of richest dyes,
Pouring new glory on the autumn woods,
And dripping in the warm light the pillowed clouds.

Longfellow—Autumn

Yes, it's that time of year again when we see and feel a definite change in seasons. In our mile high area this transition is pleasant, beautiful, and gradual. It gives the gardener ample time to enjoy the fall landscape and to put his garden in order for winter.

The opportunities for fall color trips are numerous. We usually find the quakies turning first in the northern mountainous areas about mid September. From there on it is a gradual process that moves to the south and east, completing the transformation in late October. Plan a day or a week-end trip to see our mountains in their autumn splendor.

There will also be a number of changes occurring in the garden as the colorful annuals give way to the chrysanthemums that should be recorded in your garden notebook. Use the garden scorecard from last month's Green Thumb and be critical of your garden during this period. If you have dull and uninteresting areas in your yard, plan to take the corrective measures now. Take time to look around and see what other folks have done to create autumn interest.

This is a good time to collect and dry flowers for winter bouquets. You will find some notes and ideas on this subject on page 267. We also have a pamphlet available, "Drying Flowers in Borax." Just call EAst 2-9656, if you should like a copy.

Peonies, poppies and other early flowering perennials can be divided and transplanted now. Take care that the peony buds or eyes are not covered by more than 1½ inches of soil.

Watch your evergreens and shrubs for aphids and mites. These two insects often occur in large numbers and do considerable damage at this time of year. If you have large trees you might have them checked by a competent arborist to make sure they are in good shape for the winter ahead. A little corrective pruning now will eliminate a lot of storm damage.

There are a lot of other possibilities for suggestions this month, but the following one contributed by George Kelly is good and as such takes precedence over the rest.

DIG IN AND SEE

By GEORGE W. KELLY

Half of our gardening success depends on the condition of the soil (which, here, usually means the amount of humus in it and the depth that it is worked into the soil BEFORE planting), yet the average gardener seems to feel very helpless when it comes to determining whether he has good soil or not. Why not learn to "dig in and see?"

Another 25% (at least) of the success of a garden depends (especially in these arid "Sunshine States") on the way that the natural lack of water is sup-

plied by irrigation or sprinkling. Here, again, the average gardener asks, "How can I know when I am watering right." Again, we answer, "Just dig in and see." It really is as simple as that, yet how few do it. They "assume" that they have watered enough, and not too much, by the appearance of the SURFACE of the soil, when often a soil muddy on the top may only be moist down an inch or so, or a soil appearing dry and cracked on top may be sloppy wet down four inches. Remember that it is the moisture down around the roots of a plant that allows it to grow. This may mean 8 inches in the case of lawns to 6 feet in the case of trees.

This big hoax that has been worked on us in the past two years by pseudo-horticultural authorities about the damage to our lawns from lawn diseases is largely because no one has gone to the trouble of "digging in to see" what was underneath. In most cases of these brown spots they would have found: first, lack of preparation of the soil before planting to loosen it so that the new grass roots could penetrate deeply; second, the lack of sufficient humus worked into the soil to supply food for the new grass roots and cause them to go deep; and third, a felt-like mat of ROOTS anywhere from 1/4 to 3/4 inches deep on the surface of the ground which effectively stops water, air and fertilizer from penetrating deeply enough into the soil. This has been caused, in most cases, by continuing to water once or twice a day for months after the grass is up and should have a thorough soaking not over once a week. And don't let anyone tell you that this "thatch" is from accumulated grass clippings. All you have to do is "dig in and see." Sometimes this mat of roots on the surface can be rolled back like a carpet. This condition effectively prevented water, air and fertilizer from penetrating deep and encouraging deep rooting of the grass. I have yet to see a lawn with properly deep roots that was affected with this so-called "melting out" disease.

We have gone at this all backwards in spending thousands of dollars in trying to "cure" a disease and doing little to prevent the "causes" of this condition. It is of no use to treat for a disease unless the causes are removed, and it is of little value to treat a disease when the causes are corrected.

It does not take a genius or an expert to determine the truth of this. All it takes is someone who is willing to "dig in and see" the evidence which is there for anyone.

This same habit of "digging in to see" what goes on under the surface of the soil may solve many other gardening problems, it will probably do more to help make good gardens in these sunshine states than all the books and magazines and talks by wise men.

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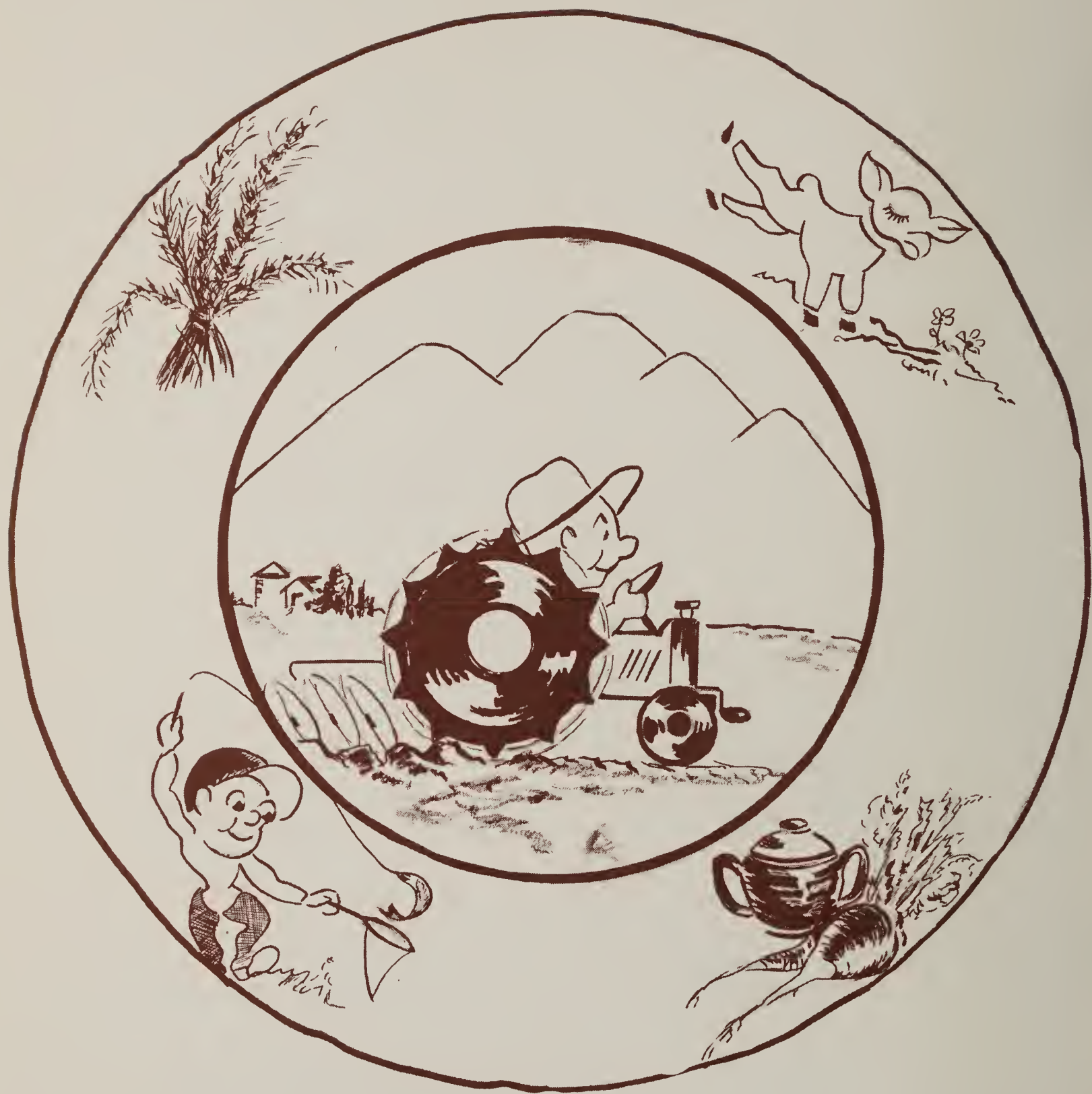
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The Green Thumb

Magazine for Rocky Mountain Gardeners



MISSION 66 AND
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HISTORY OF THE
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OR

WHAT TO DO UNTIL THE TREE DOCTOR COMES*

We are not going to minimize the tragic damage done to our trees by the 1959 storm, which will be long remembered. But our first reaction of depression and discouragement must now give way to a calm consideration of the problems that have arisen and what our next steps must be. We can best consider these in the following seven steps:

1. Twenty-three years ago, almost to the day, the Denver area suffered similar damage from an early snow. At that time there were few experts in tree care available, and there were no organizations such as the Colorado Forestry and Horticulture Association and the Denver Botanic Gardens to help with the know how. Yet many of the damaged trees recovered and have been of inestimable value ever since. The moral of this experience is: Don't get panicky and cut down damaged trees that might yet give years of valuable service. Trees have remarkable ability to recuperate from such injuries.
2. During the past year we have been blessed with conditions excellent for tree growth, so that most trees receiving any care at all are in prime condition for satisfactory recovery. They have a good supply of stored food

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flower pots, peat, and pot-
ting soil.

AN ANTI-PANIC TRANQUILIZER

or

WHAT TO DO UNTIL THE TREE DOCTOR COMES^{*}

We are not going to minimize the tragic damage done to our trees by the 1959 storm, which will be long remembered. But our first reactions of depression and discouragement must now give way to a calm consideration of the problems that have arisen and what our next steps must be. We can best consider these in the following seven steps:

1. Twenty-three years ago, almost to the day, the Denver area suffered similar damage from an early snow. At that time there were few experts in tree care available, and there were no organizations such as the Colorado Forestry and Horticulture Association and the Denver Botanic Gardens to help with the know how. Yet many of the damaged trees recovered and have been of inestimable value ever since. The moral of this experience is: Don't get panicky and cut down damaged trees that might yet give years of valuable service. Trees have remarkable ability to recuperate from such injuries.
2. During the past year we have been blessed with conditions excellent for tree growth, so that most trees receiving any care at all are in prime condition for satisfactory recovery. They have a good supply of stored food with which to start next season's growth.
3. Many of the trees that were damaged most severely were in a weakened condition because of crowding or lack of proper care. Some of these trees can now be "weeded out" with no loss and with much benefit to neighboring trees.
4. At this time of year there is almost no urgency about taking care of even serious tree injuries (except repairable splits that may become enlarged by later storms)! However, all wounds should be located in the near future and plans made for their proper treatment before growth starts next spring. After leaf-fall these injuries can be seen more readily and the repair work can be done more easily and safely. The important thing is not to attempt a rush job of repairing until the damage can be fully appraised and the work done correctly. Such work is best done by a professional tree surgeon who has the proper equipment, who can apply corrective measures that will tend to prevent further damage, and who knows how to promote healing of the wounds and how to avoid invasion of damaged tissue by diseases and insects. Those who insist on the "do-it-yourself" method should be certain that they know how to make the pruning cuts properly and all the steps necessary to prevent infection of the wounds and how to promote fast healing.

^{*} These are a few words of wisdom prepared jointly by several members of the Colorado Forestry and Horticulture Association and the professional staffs of the Colorado Forestry and Horticulture Association and the Denver Botanic Gardens.

5. This brings us to your question - "What shall we do right now?" The answer is simple. Inspect each tree and remove any broken limbs that might fall and cause personal injury or property damage. Do not attempt to remove a hazardous limb at the risk of injuring yourself. At least one man has already been killed since the storm by such an attempt. Your qualified arborists will give priority attention to such dangerous limbs and the little expense involved will be much less than hospital and doctor bills you risk when trying to remove such limbs from tall trees.

OCTOBER

Vol. 16

No. 9

EDITORIAL
COMMITTEE

- M. Walter Pesman,
Chairman
- Mrs. Alexander Barbour
- Mrs. William Crisp
- Herbert C. Gundell
- Dr. A. C. Hildreth
- Fred R. Johnson
- Mrs. J. V. Peterson
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- Mrs. James P. Steele
- Mrs. Ray Turnure
- Mrs. Edmund Wallace
- Stanley White
- Mrs. Helen Marsh Zeiner
- Patrick Gallavan,
Editor
- LaVica Bonar,
Assistant Editor

The Green Thumb

Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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The Colorado Forestry and Horticulture Association

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909 YORK ST.

DENVER 6, COLORADO

Members



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6. As soon as possible (and almost everyone is doing this) get rid of the fallen limbs. Many of these are diseased or infested with insects that may attack your trees next year. See that all such debris goes to the burning dump at once.

7. Those who have fireplaces can store good sound wood for future use. This will not only give you wood to burn but will also lessen the amount of material that must be hauled away.

In review, there is absolutely no reason to rush the taking out of a badly damaged tree or the removal of snags and stubs. The first step is to get rid of hanging limbs and branches that are hazardous and then wait until the leaves fall for final appraisal of the damage and for pruning and repairs.

Look for a more detailed article on tree repair in your next GREEN THUMB. If you have a file of back numbers, review the June, 1950, issue which has an excellent illustrated article on pruning and tree care in general.

A spring issue, probably for April, will be devoted to trees, so that you will find most of your questions related to preparations for the future in that issue of THE GREEN THUMB. In the meantime your organizations in Botanic Gardens House are ready to answer questions and you can find many of your answers by visits to the Helen Fowler Library located there.

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909 YORK ST.

DENVER 6, COLORADO

Calendar of Events

Floral Art Course: Opportunity School.
Every Thursday 9 a.m.-11:30 a.m.,
1 p.m.-3:30 p.m., 6:30 p.m.-9:15
p.m. There is no charge except for
materials.

The Green Thumb Program — Every
Saturday morning on KLZ at 10:15
a.m.

Botanic Garden's House Meetings 909 York Street

October 16 — Rocky Mountain Re-
gional Meeting of the National
Council of Garden Clubs tour.

October 19 — Green Thumb Garden
Club. Installation of officers, 12:30
p.m.

October 19—7:30 p.m., KRMA-TV,
Channel 6—Discussion of Regional
Parks Plan.

October 20—Colorado Woman's Serv-
ice Club tour, 10 a.m.

October 20 — Sloan's Lake Garden
Club, 12 noon.

October 23 — Men's Garden Club of
Denver, 7:30 p.m.

November 3—Mountain View Garden
Club, 1 p.m.

November 4—Homemakers Group of
AAUW, Herb Gundell, speaker. 1
p.m.

November 4—Botany Club, 7:30 p.m.

November 9—Judges Council, 10 a.m.

November 10 — Evergreen Garden
Club, 7:30 p.m.

November 11—Organic Gardeners, 8
p.m.

November 12—Denver Rose Society,
7 p.m.

November 13—Colorado Forestry and
Horticulture Finance Committee,
10:30 a.m.

November 13—Colorado Forestry and
Horticulture Board luncheon, 11:30
a.m.

November 17—Sloan's Lake Garden
Club, 12 noon.

December 1—Mountain View Garden
Club, 1 p.m.

December 2—Botany Club, 7:30 p.m.

December 8—Evergreen Garden Club,
7:30 p.m.

December 9 — Organic Gardeners, 8
p.m.

December 10—Colorado Forestry and
Horticulture Finance Committee,
10:30 a.m.

December 10—Colorado Forestry and
Horticulture Board luncheon, 11:30
a.m.

December 10—Rose Society, 7 p.m.

December 14 — Judges Council, 10
a.m.

Lend A Hand



GIVE THE UNITED WAY
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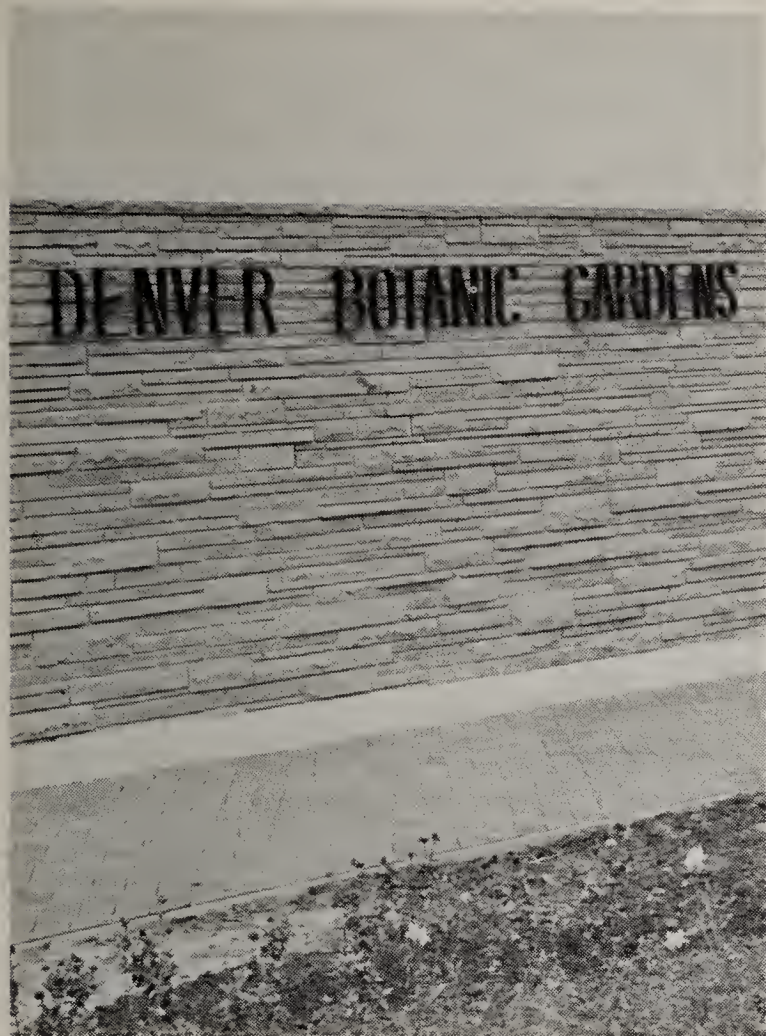
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The new herbaceous unit of The Denver Botanic Gardens was officially dedicated Sunday, September 20, 1959. The Colorado Forestry and Horticulture Association takes this opportunity to congratulate the Botanic Gardens Foundation and all connected with the Garden on the accomplishments they have made in this worthwhile project. To fully understand the significance of this dedication it is necessary to review the progress that has been made and to outline the future ambitions. This, we feel, was well presented by Dr. A. C. Hildreth in his dedication speech which follows.

The Denver Botanic Gardens Dedication

By DR. A. C. HILDRETH, *Director*

BEING a newcomer to Denver, I am surprised and pleased at the progress made in the Denver Botanic Gardens during the 8 years of their existence. In the 100-acre unit in City Park, there are now great collections of evergreens, roses, lilacs, flowering crabapples, iris, day-lilies, *Prunus* species and others, available for your study and enjoyment. These total well over 700 species and varieties. This fine home has been donated as our headquarters. Improvements have been made in the Alpine Unit on Mount Goliath, in the Arapaho National Forest; and an enormous amount of construction has been completed in the herbaceous unit here.

Yet as I talk to people about town, I find that very few know that Denver has a botanic garden, or know what a botanic garden really is. Some inquire if the Denver Botanic Gardens

are a new housing project. Some think of them as a glorified children's amusement park like Disneyland in California, or the Tiger Balm Gardens in Hong Kong. Others think they are places where plants and garden supplies are sold.

Such misconceptions are only natural, because relatively few people in Denver have had occasion to become acquainted with botanic gardens and their objectives. Botanic gardens are new to Denver and there are no others near here. To the east the closest botanic garden is in St. Louis, Missouri; to the west, in Los Angeles, California; to the south, in Fort Worth, Texas, and to the north, in Leningrad, Russia.

Modern botanic gardens exist primarily for research on plants and for public education in matters pertaining to botany and horticulture. The plant collections assembled for study and

for use in instruction also form attractive displays in beautiful landscape settings.

Within a century Denver has grown from a mining camp to a great metropolis. The city has become the commercial, industrial and transportation center of a vast area of the High Plains and Rocky Mountain States. She has become also the cultural center of this great region. Denver needs Botanic Gardens to take a proper place among other cultural institutions of the city, such as the Art Museum, the Symphony Orchestra, the Zoological Garden and the Museum of Natural History.

Denver has great possibilities for developing something unique among botanic gardens of America, or in fact, of the world. Our high mountains, so near at hand, have a great variety of climatic conditions, representing everything from here to the Arctic region. With these mountains for growing cold-loving plants, the units in the city for temperate zone plants, and the Conservatory which is planned for this unit of the Gardens for growing tropical and sub-tropical species, it will be possible to have in this vicinity for study and exhibition a complete cross-section of the plant kingdom, from the equator to the polar regions. Few large cities of the world have this opportunity.

I foresee your Botanic Gardens destined to occupy an important position in the cultural and scientific as well as the practical life of the city:

They will be the center for all botanical and horticultural interests and activities of this general region.

A place for research on horticultural problems arising from the peculiarities of our soils and climate.

A repository where valuable plant material adapted to this area can be preserved and studied and where such material may be obtained by plant propagators.

Beautiful gardens for your enjoyment.

A first rate tourist attraction.

An educational institution, where young and old can obtain instruction in botany and horticulture. This educational program may take many forms. It may be as formal as adult classes in Plant Physiology, or as informal as advice to a home owner on pruning hedges, controlling fungus in his lawn or recommendations on chrysanthemum varieties for Denver.

There will be botany classes for children; to give them an interest in and appreciation for plant life. Schools where florists, nurserymen, gardeners and landscape practitioners can receive training in the rudiments of botanical science and horticultural practice.

A living laboratory for teachers of biology in our schools and colleges.

All this will make for more attractive home grounds, parks and parkways. It will eventually make Denver a more beautiful city and it will make living here more worthwhile.

In the best traditions of democracy, your Botanic Gardens represent the cooperative efforts of private citizens working in conjunction with your city government. The city provides the land for the gardens. Public spirited donors provide funds for their development. The gardens are sponsored and administered by the Botanical Gardens Foundation of Denver. This foundation is a non-profit corporation established solely to promote and operate these gardens for the benefit of the people of Denver, of Colorado and of the neighboring states.

This part of the garden adjacent to this headquarters provides the best example of the cooperative arrangement. When the Botanical Gardens Foundation asked for and received permission from the City for use of this property as a botanic garden we promised that it would not cost the city anything for

capital improvements. By such capital improvements we meant the original construction which when completed, perhaps within the next five years, would represent an investment probably in excess of a half million dollars. We hope and expect that the city will help us with the maintenance of this great development and we feel certain that we shall not be disappointed.

Enough of the basic construction has already been completed to permit us to make limited use of this unit as a garden. Therefore, in the name of the Botanical Garden Foundation and of the city of Denver, I hereby dedicate this Herbaceous Unit of the Denver Botanic Gardens to the people of this great region of which Denver is the center.

IRIS PLANTING AT BOTANICAL GARDENS

Further planting has been done in the iris section of the Botanical Gardens under the direction of Dr. Durrance. Among the recent additions have been a number of dwarf and median species and named varieties. Among the out-of-town donors have been Walter Welch of Middlebury, Indiana; Hazel and Vivian Grapes of Big Springs, Nebraska, and Leona Mahood of Seattle, Washington. Our Denver Botanical Gardens will have representative contributions of plants from all over the United States. The species sent originated in foreign countries and should be of much interest to visitors who have never seen them before.

Among the species received and planted are *iris arenaria*, *i. italica*, *i. attica*, *i. mellita*, a number of varieties of *i. pumila*, and several others.

The newest named varieties of dwarfs and medians include Cherry Spot, Red Gem, White Mite, Hullabalu, Veri-Gay, Blue Frost, Bricky, Sawtooth Range, Tara, Green Eyes, Little Pup, Little Mohee, Dew Drop, Star Frost, Dream Child, Grandma's Hat, Rose Petite, Lilli-White, Lilli-Flora, Lilli-Green, Lilli-Richtone, Brownie, Pagan Midget, Little Shadow, Pogo, Westward, Merry Maker, and many others. Other contributions are expected to be received and planted shortly after this issue of the GREEN THUMB goes to press.

Developments and progress in the gardens will be of interest to all GREEN THUMBERS, and we expect to have a good display next year in many sections.

MRS. HOWARD G. HOUSLEY.

P.S.—Dear Editor: Congratulations to you and to George Kelley for his letter about weed sprays. This was excellent. L. H.

The Denver Botanical Gardens wishes to acknowledge with thanks the Davis Audio Visual Company, 2023 East Colfax Ave., for the use of their sound equipment in the recent dedication.

JOHN VAN WYK LANDSCAPING

New Lawns - Planting - Trimming - Maintenance

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Long House, a 13th century Indian village in Mesa Verde National Park, lies under the sheltering overhang of a large natural cave. Indian farmers, who had lived for centuries on the mesa top near their fields, moved into the cave about 1200 A.D. to build this defensive village. National Park Service archeologists will excavate this ruin as part of a six-year research program co-sponsored by the National Geographic Society.

Photos courtesy of National Park Service

MISSION 66 and Mesa Verde National Park

By MRS. JEAN PINKLEY—*National Park Service*

Mesa Verde National Park

THE National Park Service, a major bureau of the Department of the Interior, administers our National Parks, Monuments, Historic Sites and Recreational areas, valuable segments of our American Heritage. When Congress established the National Park Service in 1916, it instructed the service "to CONSERVE the scenery . . . natural and historic objects and wildlife . . . PROVIDE FOR THEIR ENJOYMENT . . . LEAVE THEM UNIMPAIRED for the enjoyment of future generations." To carry out the mandate of Congress is becoming increasingly difficult as rapidly growing travel is resulting in heavy use of all National Park areas.

By 1956 something obviously had to be done to adequately accommodate

Park visitors while protecting Park values. To meet this challenge, Conrad L. Wirth, Director of the National Park Service, with the approval of the Secretary of the Interior, organized a forward-looking program known as MISSION 66. This program is designed to develop and staff all National Park areas to permit their wisest use, maximum enjoyment for visitors and maximum preservation of the scenic, scientific and historic resources which give them distinction. It is a 10-year program to be completed in 1966, the 50th anniversary of the National Park Service, hence the name MISSION 66.

Within the National Park System are areas with features so fragile and irreplaceable the Service is gravely concerned with their preservation. One of

these is Mesa Verde National Park, Colorado. Established in 1906, to preserve the ruins and relics of prehistoric men, Mesa Verde is famous for hundreds of spectacularly located cliff dwellings and thousands of mesa top ruins. The cliff dwellings, built in the A.D. 1200's, are monuments to the achievements of a group of stone-age men, while the mesa top ruins illustrate the advances of these people from simple farmers of the A.D. 500's to sophisticated village-dwellers of the A.D. 1200's.

Past development in Mesa Verde National Park has been on Chapin Mesa, site of such famous ruins as Cliff Palace and Spruce Tree House. All visitor and administrative facilities are located on an inexhaustible, 80-acre tract of land known as Spruce Tree Point. This development, dictated in early days by availability of water, has grown by gradual accretion until it far exceeds the capacity of the site. Today, with over 200,000 visitors a year, Spruce Tree Point is an impossible hodgepodge of visitors, cars, museums, concession and campground accommodations, and administrative facilities.

The Park Service has been deeply concerned with this problem for years. A dangerous load is being placed on the Chapin Mesa ruins. Also, this concentration is destroying park values, deprives visitors of inspiration and enjoyment and creates unwarranted confusion. However, the water problem was not solved until 1950 and then funds were available only for day-to-day operation. Long-range developments had to await the advent of MISSION 66 before there was hope of solving the problem.

After careful study of all factors involved, it was evident dispersal of visitor traffic and facilities must be achieved. It was decided to undertake interpretive development of another area within the park, Wetherill Mesa, a beautiful region containing many



Dr. Douglas Osborne, Supervisory Archeologist in charge of the Wetherill Mesa Archeological Project in Mesa Verde National Park, examines a polished stone found in Mug House. This ruin is one of several to be excavated in a joint National Geographic Society-National Park Service research program now being conducted in the park.

magnificent ruins. By duplicating on Wetherill Mesa all interpretive facilities available on Chapin Mesa, effective dispersal of visitor use and traffic could be achieved if visitor accommodations were removed from Spruce Tree Point and placed at the junction of the roads leading to Chapin and Wetherill Mesas.

The point chosen, Navaho Hill at the upper end of Chapin Mesa, will allow visitors the choice of where to go. Equally important, it will allow expansion of visitor facilities for generations without in any way endangering the ruins. To complete dispersal of facilities, Park administration operations will be moved to the Park entrance.

MISSION 66 got under way when the Wetherill Mesa Archeological Project was instituted in September 1958. This project will excavate and prepare for visitation three cliff dwellings and a number of mesa top ruins in the next five years. When the project is complete, a scenic drive will give access to Wetherill Mesa where a branch museum and interpretive services will



National Park Service Archeologist James A. Lancaster and National Geographic Society President Melville B. Grosvenor climb a ladder to the upper level of Mug House ruin in Mesa Verde National Park. This split-level cliff ruin is one of several to be excavated by the National Park Service in a six-year research program co-sponsored by the National Geographic Society.

be available to visitors, paralleling those available today on Chapin Mesa.

The National Geographic Society, famous for its sponsorship of scientific expeditions and research, became interested in the Wetherill Mesa project. Dr. Melville B. Grosvenor, President of the Society and members of his research committee visited Mesa Verde National Park in September, 1958 to confer with Park Service officials. Feeling that this, one of the largest archeological projects in history, offered untold possibilities for scientific research into man's past, the Society voted to co-sponsor the work, and made \$50,000.00 available to finance Wetherill Mesa archeological research in 1959. It is expected funds will be forthcoming from Congress and the National Geographic Society to continue the project for the next five years.

It is exciting to contemplate what

MISSION 66 will achieve for visitors to Mesa Verde National Park, a new set of ruins open to visitation and a scenic drive to these sites. The generous contribution of the National Geographic Society will allow scientists to fully analyze recovered materials, thus making available complete interpretation of the prehistoric occupation of Mesa Verde. Furthermore, visitors will have an entirely new concept of this unique National Park as the location chosen for visitor facilities gives an introduction to the mesa which is not possible at present.

On Navaho Hill, which dominates the broad expanse of Mesa Verde, a visitor center will afford sweeping views of the "Four Corners" country. Here also will be located modern motel units, lodge and campgrounds. Here the visitor will interrupt his drive to relax and seek information and refreshment. He then will have time to view this great tableland—a natural fortress ringed by mountains and deserts, rising high above surrounding valley floors. Guarded by lofty battlements, the golden cliffs which border it on every side, the mesa seems impregnable. Deep canyons form open corridors through the forest cover and when, towards the end of day, purple shadows creep down their scores of cliff-lined walls, the mesa assumes an air of mystery. The visitor, watching and waiting in the still of evening, can sense in these deepening shadows the presence of other men of long ago. Here he experiences the age-old appeal of the mesa and understands why a primitive people so loved this land they made it their home for over a thousand years.

This is what MISSION 66 will give the future visitor to Mesa Verde National Park.

Practice good outdoor manners when you visit parks, beaches and other recreation areas. Always dispose of your trash in a proper receptacle and help keep America clean, safe and beautiful!

WHY CITY TREES DIE

By DOROTHY E. HANSELL

The New York Botanical Garden

"City trees never die of old age" stated Dr. P. P. Pirone, Plant Pathologist of The New York Botanical Garden and one of the country's leading plant disease diagnosticians, at the 35th annual meeting of the National Shade Tree Conference. In a three-year study involving nearly 400 dead or dying trees planted along New York City and northern New Jersey streets, Dr. Pirone found that fungus parasites are the major cause for the premature death of American elms, Norway maples, London planes, and pin oaks. With elms, the fungus *Ceratocystis ulmi* is the principal killer. Dr. Pirone has observed more dead or dying elms in New York City and vicinity this year than in any year since 1933 when he first worked on this disease.

Fungi responsible for the death of maples, particularly Norway, silver, red, and sugar maples, include those known as *Verticillium albo-atrum*, *Ganoderma lucidum*, *Armillaria mellea*, and *Phytophthora cinnamomi*. These soil-inhabiting fungi are most destructive to trees over 25 years in age and those growing under adverse conditions.

Dr. Pirone found many other causes for the premature death of city trees. Included are frequent visitations by male dogs which result in death of the inner bark at the base of the trees, a disease he calls "dog canker." Placing a metal collar around the tree is not enough to prevent damage, because the toxic secretions enter the soil anyway and thus kill the roots. In one case the soil around a tree frequently visited by male dogs was found to contain 900 parts per million of soluble salts; more than four times the maximum tolerance for trees.

Other causes for trees' death were excessively deep planting, girdling roots in which trees strangle themselves below ground; and the use of toxic materials such as crank case oil, dry cleaning fluids and salt. Dr. Pirone found that the most serious offender in the latter group was rock salt applied by home owners or apartment superintendents to melt snow or to prevent ice formation on sidewalks. The salty water is frequently swept into the small, open area around the tree where it seeps down to kill the roots. Salt scattered along city streets to prevent icing may later be splashed up onto the soil above tree roots.

In the past another frequent cause of death has been leaf bonfires started along the curbs in the fall. The intense heat injured the bark which then is more readily invaded by parasitic organisms, said Dr. Pirone.

A few trees are destroyed purposely by some individuals either because the tree roots clog sewer pipes, or because leaf raking is too much of a chore in the fall. Dr. Pirone found several trees which had been girdled with an ax just below the surface. The cut area was then covered with soil to hide the malicious work.

The studies reported today are the most extensive ever conducted on street trees in this country. The diseases involved, their symptoms, and control measures are presented in great detail in Dr. Pirone's book "Tree Maintenance" recently published by Oxford University Press, New York.

Have you seen the pictures of the new lavender rose? It is a brand-new floribunda, called Lavender Princess. Do you like it?

—MWP



The carnation, a flower its supporters say has "... fertility, virility, stability and courage," is one of 20 contending flowers in the National Flower Election.



The rose, official flower of four states and according to its supporters a universal symbol of peace, loyalty and courage, is a leading candidate.

Photos courtesy of Florists' Telegraph Delivery Association

Voters Can Help Congress Pick National Floral Emblem

GRANTING statehood may be a difficult Congressional problem, but it's not half as much trouble as picking flowers.

Now that Alaska and Hawaii have been admitted to the Union, the 86th Congress may resolve a third question that's been on the docket for years.

The debate concerns the selection of a national floral emblem, and it's a question first raised by the 66th Congress in the days of Woodrow Wilson, more than 40 years ago.

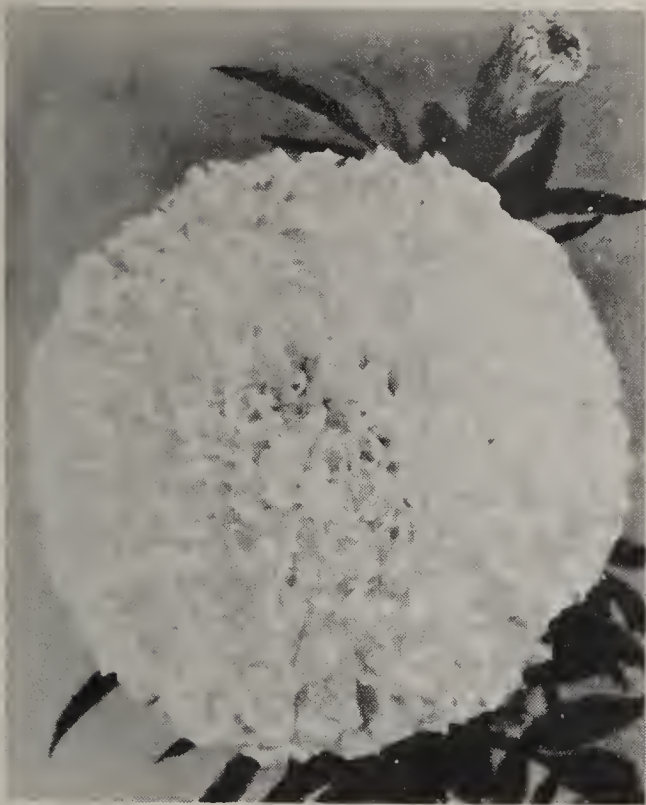
This session, the rose, marigold, corn tassel, black-eyed susan, carnation, grass and Shasta daisy have been championed in bills. Their merits have been argued on the floor of both Houses and in Congressional committees, but again no decision was reached during the first session of the 86th Congress.

When members reconvene next year they'll have the broadest sampling of

public opinion ever undertaken to help them resolve the question once and for all. Results of a National Flower Election during the month of October, which provides every man, woman and child in the U.S. with an opportunity to express his opinion, will be presented to the Congress. Voters will have an opportunity to vote for one of 20 floral candidates or write-in the flower of their choice.

The Election conducted by Florists' Telegraph Delivery Association, is designed to provide a basis for legislation. During the month of October, voters will be able to obtain a ballot from FTD shops in virtually any community in the nation.

America is one of the few major countries in the world without a national flower. More than 40 official flowers of other nations are recorded in the Library of Congress. England has the rose; France the fleur-de-lis;



The marigold, native to North America and grown in all 50 states of the Union, is another candidate.



The Shasta daisy, a flower "... created after long experimentation and propagation by the great genius, the immortal Luther Burbank ..." was submitted to the Congress as a candidate for America's national emblem by Rep. Philbin of Massachusetts.

Panama, the orchid; Mexico, the prickly pear; and Wales, the leek.

The national flower issue began on the floor of Congress in 1919 when Rep. Edward Taylor of Colorado introduced a bill asking that his state's columbine be adopted by the nation. Many bills have been introduced since that time. The most favored flowers have been the laurel, rose, and corn tassel.

None of the bills has come to a vote since they first came to the floor in 1919.

This year was the floweriest in Congressional history. A few minutes after the House was gaveled to order, Rep. Judd put Resolution No. 13 into the hopper favoring corn. He said "... it was the gift of maize that mothered the Pilgrims."

Eight days later, the marigold entered into the fray and in just a few weeks, the rose was nominated by Rep. James Davis of Georgia who said, "... the American people prefer it by a margin of 18 to 1 over any other."

Two days later, Sen. Dennis Chavez of New Mexico spoke up for the rose in his side of the Capitol. Then Sens. Douglas of Illinois, Bourke Hickenlooper and Thomas Martin of Iowa countered with the corn tassel.

The floral question lay fallow for several months until Sen. Gordon Allott of Colorado urged the carnation be chosen as an "amicable compromise" between rose and tassel. The flower, Sen. Allott urged, has "fertility, virility, stability and courage."

Another contender, grass, was introduced by Senator Thurston Morton of Kentucky. He asked: "Where would the cow, the foster mother of mankind, be without grass?"

Final entry in the Congressional flower race, the Shasta Daisy was introduced by Rep. Philbin of Massachusetts. He said the flower was "... created after long experimentation and propagation by the great genius, the immortal Luther Burbank..." Members of The Committee on House Administration, considering the various

bills, have said the National Flower Election will be a valuable aid in learning the choice of the citizens of the nation.

Plans call for each FTD member to devote a portion of his shop to balloting during the entire month of October. Citizens of all ages are urged to vote. Ballots will be sent to a central clear-

ing house, for tabulation by an independent accounting firm, prior to presentation of results to Congress.

Other favorite American flowers listed on the FTD ballot are the camellia, chrysanthemum, daffodil, geranium, gladiolus, goldenrod, lily-of-the-valley, magnolia, orchid, peony, rhododendron and the tulip.

PERSONAL ITEM ABOUT MRS. SUE McCLANE (Mrs. George)

The Green Thumb was honored in running the article "PENTSTEMONS IN CULTIVATION" by Mrs. Sue McLane in our last issue.

She had recognition in the Flower Grower of July 1959 which published her "Graceful Pentstemons," the first article of its kind ever published.

Her Ranchera Plena Flora in Craig, Colorado, covers two acres; The Flower Grower says: "In addition to interest in pentstemons she makes a specialty of wildflowers, grows houseplants by the dozen and can't resist roses, clematis, iris, daylilies, delphiniums, columbines, rudbeckias and spring bulbs, especially tulips and daffodils."

She hopes that more people will grow penstemons in the immediate future, mentioning the New Hybrids developed at the North Platte Experiment Station as particularly serviceable.

In regard to the casual treatment of botanic subjects she writes: "Just because I personally like the frosting on the botanical cake is no reason for the baker to leave off the cake. Some people like it, even without the frosting. Some taxonomists would be loath to set themselves to the task of learning the technique of precision mechanics, which might be the specialty of the man they might criticize for his botanical interest. We do not all have the same capabilities or desires, and what is right for one might be wrong for another. We should live and let live."

All of which proves again that a plant lover is almost sure to be a philosopher under the skin.

—MWP

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REGIONAL PARKS PLAN

By ARNOLD PERRETIN,
Chairman, Regional Parks Planning Commission

ABOUT one year ago the Inter-County Planning Commission issued a report entitled "Recreation" in the Denver region. This report was made after many months of study of the park needs in the Denver area and possible sites available which would meet these needs.

Soon after this report was released the Regional Parks Association was organized to promote the regional parks program in the Denver Metropolitan area. This association consists of citizens and representatives of organizations vitally interested in parks and recreation.

While this organization is interested in all park development its activity is primarily directed to the acquisition, development and maintenance of regional parks. For a park to be classified as a regional park it should be approximately 500 acres or larger. The development of small local parks, playgrounds, and small recreational areas will be left to local recreational authorities as local units of government.

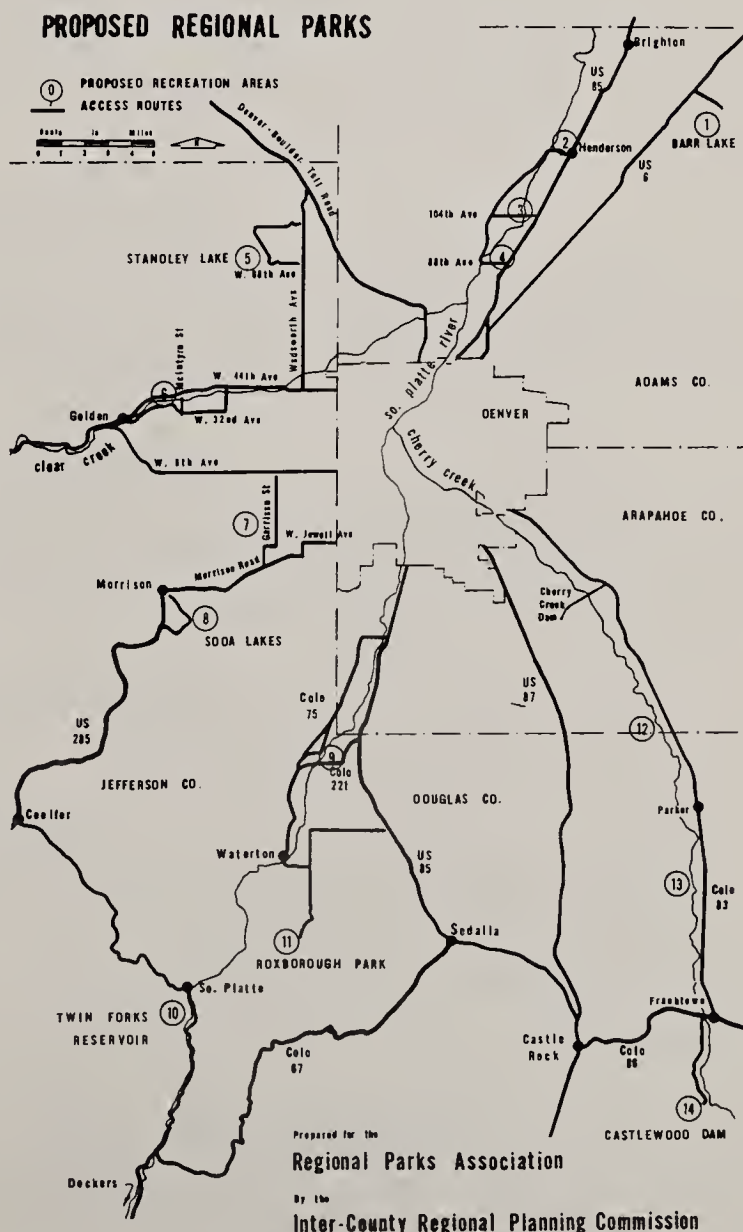
Approximately 50 years have passed since the last large park was developed in Denver and no large parks have been developed to date in the metropolitan area outside of Denver. Since the last large park was developed the population in the area has increased more than 400%.

If the population in the area continues to grow during the next 20 years, as it has in the past decade, it is estimated by competent authorities that 1,250,000 people will live within the metropolitan area. Some 9000 acres of regional parks land will be needed to adequately serve this population.

The Regional Planning Commission has selected 14 sites with an aggregate

area of 9000 acres—to be acquired and developed within a reasonable time. The selected sites are geographically situated throughout the region so as to be easily accessible to any part of the urbanized population. All of these sites can be reached within less than 30 minutes from the center of Denver and would ultimately be connected by a parkway system. A map is attached showing all of these 14 sites.

The State Park Board has placed the Denver Metropolitan area in Region 8 which includes several counties



outside the area represented by the Inter-County Planning Commission and recommends considerable additional acreage for State Parks. Colorado is the only state in the Continental area with no developed state parks.

Early action to acquire these park sites is important because the expansion of the residential, industrial, and commercial areas will soon cover them and make the cost of acquisition prohibitive. Several plans for acquiring these sites are considered by the Regional Parks Association and the State Parks Board. The idea of matching funds by the State Board with funds

appropriated by the counties in the Metropolitan area is being explored. These funds would be used to acquire the sites and develop the parks. The maintenance and operation of the regional parks might be operated by the State Park Board or by the counties in which they are located.

The Regional Parks Association estimates that a fund based on 25 cents per year per capita, or a ¼ mill tax levy on property within the affected counties, together with a matching fund from the state, would be sufficient to acquire the selected sites within a period of ten years.

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A HISTORY OF THE DENVER PARKS

By S. R. DEBOER

CHERRY CREEK PARKWAYS

MEMBERS of the Green Thumb Committee have called me up and have called me down to produce some bit of history on the Denver parks. I feel greatly complimented but the fact is that I am not an historical writer and if I am to tell about the Denver parks of fifty years ago I must do it as my personal observation. The story, therefore, becomes a thing with a lot of "I's" in it.

I landed in Denver the week before Christmas in 1908. Denver was a much smaller city at that time. It was a pleasant city, more so then than it is today, I often think.

At that time there was a little shoe shop at the end of Stout Street where it hit Cherry Creek. There was no boulevard at that time. Shuster, as we called the owner, had his shop hanging right over the creek. It was a good location because waste material could be dropped right into the creek and next door was a saloon where one could buy a whole cooking pan full of beer for ten cents! I want to show you that Cherry Creek at that time was something quite different from what it is today.

That brings me to my real subject. Cherry Creek then was unlike any other creek. It was a little bit like the Powder River in Wyoming which they say is a mile wide and an inch deep. Well Cherry Creek was not quite a mile wide and often carried more than an inch of water, but not usually. It had all kinds of interesting objects on the creek bottom, such as tin cans, paper, rubbish and everything under the sun. As a matter of fact, the Cherry Creek channel was nothing other than a dumping place for Denver.

It took a great deal of vision for an elected official to do something with

this rubbish creek which ran diagonally through the city. The mayor of Denver who undertook it suffered all the hells and punishments that a democracy can mete out to a man who has nerve enough to improve a city.

I have often wondered why in a democracy, prominent leaders who have accomplished many, many things for their people are so often vilified in public as well as in private. Certainly in the history of Denver no one has done more for the development and the livability of the city than has Robert W. Speer. Today we talk about him with a good deal of reverence but in the days when he was still living and working for Denver, he was vilified in a way that was abominable.

One day I was riding the 4th Avenue streetcar in Denver going from the City Hall to the Country Club District at the upper end of what is now Speer Boulevard. A man sat down beside me and looking at the blueprint which I was carrying, remarked, "Are you working on the creek work?" I answered, "Yes, I am going down to the Downing Street Bridge to look at some of the grading work." "Ah", he said, "It is another one of Bob Speer's grafts. He is building this boulevard only to lead to his own house on 3rd Avenue and Humboldt and to promote the development of the Country Club Subdivision in which he is interested." I weakly suggested that the boulevard would be a tremendous thing for Denver and that I was absolutely unaware that there was any such thing as personal graft in it. He replied that I was a newcomer and did not know of such things. Robert Speer in my young mind was one of the wonderful men of the West. I worked for him and I worked hard because he seemed to want it. I resented the remarks



Above—Photo taken from Broadway Bridge looking down showing the completion of the bridge on the north bank.

Left — Approximately 1900, showing the completion of the bridge on the north bank today.

Below—Another photo from Broadway Bridge showing progress. The site of a landscaped island between Speer Boulevard and Broadway Bridge.

Right—Approximately 1900, showing the completion of the bridge on the north bank today.





1908 from Broadway
Creek to the west,
construction and plant-
creek.

me area as it is

in 1908 looking east
ing construction in
Monuments is now
northeast corner of
ay.

me area today.



from the man in the streetcar violently but my command of English and my rather timid European personality was no match for this loudspoken, native citizen.

Mayor Speer returned to office in May, 1915. He had spent the time between his two terms traveling in Europe. The day after his inauguration he was back on the creek work. He had studied city forests in Germany and now we planted the south end of the Sunken Gardens as a forest with a little creek running through it. Many mornings he stood looking at us building the little water fall. Years later a Brussels park man praised the little park as the finest bit of park landscaping anywhere.

We carried the forest planting across Broadway after filling in with ten feet of soil. One morning Speer walked by there. I got another bit of construction philosophy from the Mayor. "If it takes one team a hundred days, one hundred teams can do it in one day. Get busy and get it done." We certainly got the teams. The forest had a trail in it and we planted red oaks thirty-five feet apart through the forest, so as to have a treeline if the road should be widened.

To carry out the forest effect on the narrow strip, we planted hedges of Lombard poplars. For fifteen years those walls of green were a definite item in Denver's parks. The trees became diseased, but to this day, I believe they should be replaced even if they have to be renewed every fifteen years. In the fall of 1910 part of the wall from Broadway to Colfax had been built and the east boulevard finished for that distance. I was in on most of the other work, of course, only as a young landscaper.

Time went on. We had entered the first world war and Robert Speer was back in office again, for his last term. Unexpectedly he died. The work continued as best we knew how, but it

had lost the leadership and enthusiasm which we received from him.

Several years later at a meeting of the Denver Chamber of Commerce there was a discussion on the subject, "Whether we should or should not build a monument to the memory of Robert W. Speer." One of the people that got up and argued enthusiastically for a monument, I discovered to my dismay, was the man who had talked to me on the 4th Avenue streetcar. It was not my place to enter the argument and I kept out of it. It taught me a very interesting bit of philosophy. This man who had so harshly criticized the building of Denver's developments had changed his mind! It was a bit late because at that time Robert Speer had been dead for years.

THE FLOOD OF 1913

The morning after the flood I drove my horse and buggy to the 11th Avenue bridge by going around the flood water. The flooded area included all of the land on both sides of the creek and around the Union Station clear up to the Platte River. I drove my buggy into the water at the Sunken Gardens and finally located Pat Harrington, the park foreman. Practical man that he was, Pat had brought boots and was wading around there and hollering. After a little we thought that we might be able to open up the drains, but the creek backed the water into the park through them. The Sunken Gardens area, on both sides of the creek, was under water. The little check dams that were right below the Bannock Street bridge had thrown the water over the two sides filling the park.

Saturday afternoon before the flood Pat had finished sowing grass seed on the last corner of the first unit of the park. That is on 9th Avenue and Forest Drive. He had done a good job because it was Pat's pride to do a beautiful grading job. The seed had been sown and for that season the park was finished. When I got there

Monday morning there was no park, there was nothing but a dirty mud puddle. A few of the little trees that we had planted remained, but they were bent over by the water and carried trash on their leaves like little flags. On the west side of the pool there was a fine pergola. It had been saved from the last fair held in Overland Park and had been rebuilt behind the pool as an ornamental feature. The West Side High School, of course, had not been built. This land was still a dump.

The new administration had cashed in on this flood. The mayor was photographed saving people out of the flood at the Champa Street bridge, and there was a great deal of hubbub about that, critical of the previous administration, of course.

Several measurements were taken of the flood and while the flow at the crest was a terrific amount of water, we discovered that the total amount which came down the creek was a relatively small amount. I believe it added up to about 3500 acre feet. This is a considerable amount but for a real flood it is very small. The flood lasted only a few hours and it had been disastrous while going down the stream.

Then came the problem of cleaning up. Floods are not only terrific on account of their velocity and pressure asserted but also for the ungodly

amount of debris and soil they deposit. I did not know it at that time but later on I learned that when a flood like that comes down from the mountains that the whole creek bottom, probably twenty feet below the surface, is all in turmoil and churned up. This was the reason that our new walls did not stand up too well. Pieces of it went over into the creek after the piling had been exposed and washed out.

All of this had to happen under the new mayor who not only had threatened to fire every last man of "Speer's Gang" as we were called, but that he would replace them with real efficient men. Well Pat Harrington disappeared, I do not know where he went, leaving no one in charge. Finally the former foreman of City Park, Alec Graham, was appointed in charge of the Sunken Gardens and the boulevards. He was given direct orders by the new mayor to clean up the dirty mess. By that time the water and the mud in the gardens had begun to smell to high heaven. Graham was a very pleasant man to work with and together we set out to rebuild the park. First of all we had to get the drains opened up so the water could drain away into the now empty creek. After we had the water drained off, we found that we had something like five feet of soft mud, the stickiest and smelliest sort that you can imagine.

If ever you are in that wild part of Cornwall where Castle Peak lords it over the moon, a new experience awaits you if you dare to stay out late. Choose some night when a harsh wind is blowing and clouds are skurrying across the moon: there you shall see gray, misty figures stealing over the heath. They are witches gathering ragweed. When they have picked a bunch of strong stems, they bestride them and off they go flying faster than the clouds and mixing with them as the ride goes forward to Castle Peak where they gather to dance and brew poisons and spells.—*From Myths and Legends of Flowers, Trees, Fruits, and Plants by Charles M. Skinner.*

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We began to haul it out and it was an endless job. Hand labor and teams of horses were used as we had no trucks or power shovels as we have today. We dumped a good deal of it in the big fill on the east side of Broadway but it was a slow process. Graham and I developed an idea to raise the grade of the park instead of hauling it out. It took a lot of careful figuring but we managed to retain a great deal of the sunken effect and then we began to haul in top soil which was spread over the mud. It took all summer and even then we did not really clean it up thoroughly. That is the way the park was finally restored.

Some of the plantings on Cherry Creek may be of interest here. The American Elm trees were alternated with Carolina Poplars so we might have a quick effect. Later the poplars were removed. Between Bannock

Street and Broadway we planted Burr Oak. They were very slow growing and even today are small trees. At Lincoln and Forest we had a grove of Western Hackberries which were experimental at that time. The Lombard Poplar hedges I mentioned before. In the thicket of the forest we experimented with oaks, wild black cherry, flowering crabs, unusual haws, etc. Between Logan and Clarkson we planted a grove of Koster Blue Spruce which are still there today. They are somewhat crowded now, but we were playing for a forest effect at the time. Between Washington and Clarkson we planted Western Yellow Pine. Several times we tried to get a mass effect over the creek walls and we planted *Rosa setigera* for that and later *Desmodium penduliflorum* and still later Peonies, but the three miles of color we tried for, did not succeed.

A NEW MEN'S CLUB

A new men's club was organized in Sterling, Colorado, this summer. The news was given us by Russell G. Meyer, inveterate Men's Garden Clubber. At the time of organization about fifteen members joined.

President is Dr. C. W. Vandas, 111 North Third Street, and Secretary Carl W. Waltz, 437 Delaware Way, Sterling.

The Colorado Forestry and Horticulture Association extends the new club a hearty welcome. The Green Thumb, we hope, will be the beneficiary before long by receiving pictures and articles on gardens of Sterling.

—MWP

Among the many forms of *Euonymus* there are new types reaching the Denver gardens that seem to have great possibilities. The trailing evergreen, *Euonymus radicans*, that may climb to a large height on a rough surface, now has a beautiful variety with variegated silvery leaves. If you like long, complicated names you may call it *Euonymus radicans argentea variegata*. With that sort of a name it should have no difficulty reaching the society page.

—MWP

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GARDEN CLUB BRIEFS

By MRS. JOHN NICKELS

Colorado Federation of Garden Clubs

DOWN sweeps the chill wind from the north and the winter is upon us. What do the garden clubs do now? This question is often asked for 'gardening' seems to be for the 'growing' months. Not so for the garden clubber. The winter months are our busiest for now we have time to learn how to do all the things that must be done during our short growing season. Now is the time to pause, read, study, learn, compare notes on the past season and best of all dream and plan for the coming summer months. "Never did a flower bloom and blow in the summertime as it does in the dreams of the wintertime armchair-gardener."

A quick perusal of garden club Year Books will give some idea of the scope and intensity of the wintertime work of the clubs.

November and December are, of course, holiday minded. Many programs are scheduled on home decorations and gift wrappings. Flowers, fruits, vegetables, grains, grasses, nuts, and a number of things never meant for decorative purposes are pressed into service.

Nylon net becomes 'yummy' Christmas trees, as does punchinello ribbon, crinoline, tin cans, colored paper in variety, and even father's pipe-stem cleaners have artistic value. Candles are no longer plain and unadorned but may be made in a number of shapes and forms from specially prepared paraffin, highly decorated in fascinat-

ing ways. December programs become nostalgic with songs, legends, traditions, merriment and the sharing of gifts.

Comes the New Year with the gardener's favorite book, the seed catalogue. Now our programs portray the 'dreamer'. Programs such as Winter Moods, Garden Days are Memory Days, Gardening—A Constant Succession of New Beginnings, Debutantes for 1960, Colors Through the Seasons, Plan Ahead, and Spring in January are found.

Camera fans who use their garden plants as subjects now have time to view the pictures that they were too busy to see last summer. Many picture programs are given such as From Hawaii to Rome, A Second Trip to Europe, Southern Gardens, and In Old Mexico.

Wintertime is also a time for action with programs such as House Plants on Parade, Decorating With House Plants, Indoor Planters, Your Plants and Their Diet, Terrariums, Dish Gardens, African Violets, Gloxinias, Forcing of Branches for Early Color, and the Feeding of Winter Birds.

Books and magazines that have accumulated are brought out and read. Book reports become popular. Now the encyclopedic books are not so much in evidence for we can relax a bit with books like Reading the Landscape by May Theilgaard Watts, Symbolism in Flower Arrangement by Ervin S. Ferry, Enjoying American Gar-

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dens by Joan Parry Dutton, and Plants of the Bible by Harold N. and Alma L. Moldenke.

Time passes all too quickly and the next telephone call will be some program chairman reminding me that I had promised to give them a demonstration on "Starting Seeds Indoors," which opens the door to all manner

of programs. Now, all at once, we want to know what, when, where and how to plant bulbs, annuals, perennials, shrubs, trees, lawns, roses, dahlias, glads. . . . Last winter when I was reading the Indoor Bird Watcher by Helen Ferrill why wasn't I reading George Kelly's Good Gardens in the Sunshine States?

The slate of officers newly elected at the Twenty-ninth Annual Meeting of the Colorado Federation of Garden Clubs, Inc. is as follows:

President—Mrs. D. W. Viles, Durango

First Vice President—Mrs. C. C. Buckbee, Denver

Second Vice President—Mrs. R. C. Wilson, Englewood

Third Vice President—Mrs. Glenn Clayton, Englewood

Fourth Vice President—Mrs. E. G. McRae, Dolores

Recording Secretary—Mrs. Ester Holtz, Boulder

Assistant Secretary—Mrs. Benjamin Lofquist, Denver

Treasurer—Mrs. Elmer Mintken, Idaho Springs

Assistant Treasurer—Mrs. Herbert Benson, Idaho Springs

Auditor—Mrs. Maurice W. Johnson, Arvada

Directors—Mrs. H. E. Rounds, Grand Junction and Mrs. Ross Thomas, Dolores.

It would be most fitting to end this Garden Club Brief with a tribute to our past State President, Mrs. John Nickels. Her name, Elna, is original and distinctive, as good garden clubbers know their flower arrangements should be. Her personality matches the quality of her name. She is forthright, yet thoughtful of others, and kind to everyone. She goes ahead with integrity where others would hesitate, but never steps on those who might get in her way. Her heritage from the Good Book shines out in her glowing life. Gardeners from all over the State will join with me in saying "to know her is to love her."

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The Burlington Hospital Site during construction and before the Garden Club undertook the beautification project.

Burlington Garden Club Landscapes Hospital Grounds

By BESSIE M. WILSON

Your editor visited the Burlington Garden Club several months ago with Mrs. John R. Nickels, President of the Colorado Federation of Garden Clubs. He was impressed with the avid interest of the Club in civic projects. At this time he was introduced to Mrs. Bessie M. Wilson, Chairman of the hospital project and one of the charter members of the Burlington Club. She told him that this project had won a national award for the Club. She also indicated that she had considerable information available and expressed a willingness to write it up for our readers. Here then is the story of how the Burlington Garden Club made their City a better place in which to live.

THE Burlington Garden Club was organized in January, 1928, and early in its infancy chose for its motto, "We pass this way but once, let us beautify the path as we go, so the world may see which way we went." Members have ever kept in mind their motto and through the years have endeavored to make it a real and vital part of their lives.

Thus when the Kit Carson County Memorial Hospital was completed in 1948 the Club voted to offer to landscape the grounds which cover one-half block in Burlington. The services of M. Walter Pesman, landscape architect, of Denver were secured. He visited the grounds and drew the blueprint for the planting. These plans were then approved by the Garden Club, the board of county commissioners and the hospital board. All this required time, so it was July before the plans were finally accepted, delay-

ing planting until the following spring. The traveling expenses and architect's fees, plus the cost of the blueprints, amounted to \$121.60 which was paid by the Garden Club.

In the meantime, the club was busy with various fund raising activities which included a progressive flower show and a benefit card party.

In April 1949, the first trees and shrubs were purchased. These, together with the transportation charges, amounted to \$343.92. Individuals and Clubs were invited to pay for a tree to be planted as a memorial, or to honor someone living. A number of trees were paid for in response to this invitation. The Garden Club dedicated three Ponderosa pines, one to each of the three charter members who were still members at that time. They were Madames Bessie Wilson, founder of the club, Pearl Schell and Pearl Vallin. Mrs. Vallin passed away in 1951. In



The Burlington Hospital today showing the pleasant effect of the Garden Club's planting project.

1958 a bronze marker was placed at the foot of each of these trees at a cost of \$62.10. Public dedication of all plantings was held April 16th, and they were presented to the hospital officials to be nurtured and cared for by them.

Trees, shrubs and replacements in 1950 amounted to \$169.50. Again, a public dedication was held May 12th, this year in conjunction with the Hospital Auxiliary in their observance of Florence Nightingale Day. The annual flower show for 1950 grossed \$300.00, and after expenses were paid, the net proceeds were placed in the hospital planting fund.

In 1951, cost of plantings purchased amounted to \$223.61. These included trees, shrubs and vines. The dedication of new plantings was again held in conjunction with the observance of Florence Nightingale Day, May 11th. The money raising projects included the annual flower show and a flower mart.

In 1952 more plantings were purchased, and in addition, six terra cotta benches which were included in the blueprints were secured at a cost of \$277.50. This year the committee labelled all the trees and shrubs. This was done by the use of aluminum tape on which was imprinted the name of

the planting. Mr. George Kelly, who was then employed by the Horticulture House, loaned us the stamping machine and secured the tape at a cost of \$2.00 to the club. The Club held the annual flower show, and a public dedication of the new plantings and the benches.

The plans also called for a number of flower beds. These would require a lot of time and the services of a gardener. Mrs. Bessie Wilson, who has been chairman of the project since its beginning, consulted with the hospital superintendent and they agreed that this work should not be undertaken until such time as the hospital funds would warrant the employment of a full time gardener, at least during the summer months.

The Club still buys any needed replacements, and has spent a little over \$1,163.00 for plantings which include 46 evergreens, ten deciduous trees, 117 shrubs, 14 vines, and 250 English Privet for hedge.

The fact that the project has stretched out over a period of years has been good for both the club members and the public. It has been a real inspiration as well as a lot of fun to watch the growth of the many plantings.

The planting of the hospital grounds is by far the most ambitious project undertaken by the Club, but through the years they have distributed many free trees and plants. A couple of years ago, members furnished perennial plants for the grounds at the new Rest Home.

Last spring the Club bought pink petunia plants and a couple of Korean boxwoods for the flower boxes at the new library building, and furnished two Forsythia shrubs for the grounds.

Bill Yersin of Burlington, chairman of the State Park and Recreation Board, appeared before a meeting of the Club on March 9th, 1959 and

requested their aid in securing more plantings for the State wayside park at the "Y", east entrance to Burlington. Accordingly, the Club secured a number of Black Prince lilacs, *Rosa setigera*, Dwarf Ninebark and *Rhus cismontana* for this purpose.

Then, too, for the past several years the Garden Club has had full charge of the Horticulture Department of the Kit Carson County Fair. This has been done at the request of the County Commissioners.

It is thus the Garden Club members, inspired by their motto, "Beautify the path as they go."

SIMPLE — ISN'T IT?

Some wheat rust does a lot of damage to a wheat crop. Another race, looking just like it, may actually protect wheat from its more vicious brother. Plant pathologists are studying these races. And now they have found a very simple way of collecting rust spores. Take a pyrex dish, rub it with a silk handkerchief to charge it with static electricity, place it next to a rust-infected plant—and the spores are drawn right into the dish on shaking the plant. Simple and effective!

—MWP

CEDAR WAXWING

*Some day when high bush cranberries glow
Against a carpet of sparkling snow —
Without any warning to let you know —
The waxwings put on a charming show.
The musical part you will probably miss
As the song they sing is a sibilant hiss
But their acrobatics! They swing and sway —
Crawl upside down then fly away —
Climb and slide and dive and pace —
With never a feather out of place
And then — they are gone — leaving no trace!
Unpredictable — beautiful — gay —
These happy jongleurs go their way.*

— L. Young Correthers



Careful Maintenance of Shade Trees
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THOSE COLORADO SPUDS

By HELEN MARSH ZEINER

Potatoes are such a commonplace vegetable—who gives them a second thought? We might well do so, however, for these ordinary, everyday plants which came to Colorado with the pioneers now form a stable part of the industry of the state.

It is known that potatoes were planted in garden patches near Denver as early as the spring of 1859. These potatoes had come across the plains in the wagons of early settlers, and most of these that were planted were merely left-overs from the winter supply. To the amazement of the growers, these potatoes grew to an enormous size, twice as large as they grew "back east." An emigrant named William Parkinson is given credit for being the first grower in the Platte river bottoms. He shipped in eyes of Neshannock potatoes from Virginia and planted these in May of 1858. In October he dug his potatoes and got 150 bushels from a single acre. With miners pouring into the region, he had found a good source of revenue.

The Neshannock appears to have been a popular variety among the first growers, and soon a number of people were raising potatoes, so that by 1860 they were quite plentiful and a comparatively cheap food. Other popular early varieties were Kidney and Peachblow. These, along with Neshannock, were worthy of mention in the Rocky Mountain News in 1864. All of these varieties attained an enormous size in Colorado.

Although potato growing really began along the Platte, they were soon planted and grown successfully along Cherry Creek, Kiowa Creek, and other stream bottoms. We might say that the potato followed the miners. Most boarding houses or miners cabins had some sort of a garden patch, and the potato was grown in some most improbable places. They were grown near Central City in 1862, and in Empire gardens which supplied the miners with potatoes and a variety of other vegetables. The first records of potatoes in the San Luis Valley followed the rush of miners to the San Juans. Many growers developed their own strains of potatoes. One of these which was widely grown was the "Brown Beauty" which was very popular in the San Luis Valley.

Although the first potatoes grown in the state grew to a surprising size, it was found that after a period of about 15 years the potatoes had become very small and crops were poor. This led to scientific studies of the potato situation, and made it possible for methods to be developed which have made potato-growing in Colorado an important industry.

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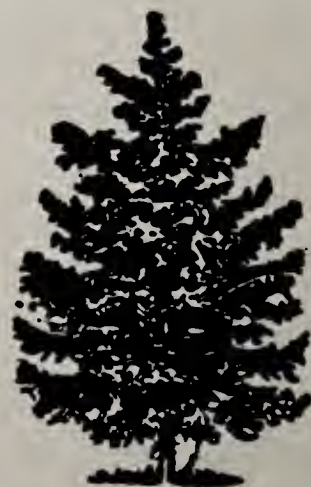
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Amelia Huntington, Mgr.



The pioneers loved festivals, and as various crops appeared in the state, they were feted in various ways. The potato had its day; "Potato Day" was celebrated in Greeley for the first time October 15, 1895. Baked potatoes were served until the supply ran out. Several thousand people attended this festival, and some missed out on a potato, since a much smaller crowd had been anticipated. Greeley at this time was very important as a potato-growing area, and it was from Greeley that potatoes were first sent outside the state of Colorado.

Other crop plants brought to Colorado by the emigrants have followed a somewhat similar path as the potato. Grains, for example, first planted to supply meal for the humans and food for horses and mules, have become extremely important as crops. Fruits have also followed a like pattern. For anyone interested in reading more about the history of some of these plants, the *History of Agriculture in Colorado* by Alvin Steinell, available in the western history room of the public library is a very readable and quite complete account.

In Our Library!

Encyclopedia of Organic Gardening by the Staff of Organic Gardening and Farming Magazine. Compilation supervised by Jermon Olds. J. I. Rodale, Editor in Chief. Rodale Books, Inc.

As stated in the introduction this encyclopedia has been created to meet the demands for a permanent reference book about the basic organic methods. Special attention given to the subjects of major importance to organic gardeners. Composting, mulching, fertilizing, soils, vegetable and flower gardening, orcharding and fruit trees, house plants, landscaping, nut trees, plant diseases and insect control, shrubs, and borders are topics covered in detail.

10,000 Garden Questions Answered by 20 Experts. Revised edition 1959. F. F. Rockwell, Editor. Doubleday & Company.

This new edition brings the information of previous editions completely up to date.

Garden Ideas and Projects. Edited by Richard D. Whittemore. 1959. Doubleday & Company.

"Within these pages are dozens of ideas on how to make gardens more attractive and liveable with simple projects using wood or masonry. Here, too, are plans for special gardens and a valuable garden calendar for every part of the United States." Preface.

Garden for Gourmets, Good Eating from a Small Back Yard. Ruth A. Matson. An American Garden Guild Book. 1959.

Excellent and practical advice for growing vegetables, small fruit, and herbs for the kitchen garden with tempting recipes based on garden produce.

Rock Garden Plants. Doretta Klaber. 1959. Henry Holt.

New ways to use alpine and associate plants around your home as well as in the rock garden, with illustrations by the author.

E. T. L.

"MUMS" THE WORD

By MRS. JAY R. TRAVIS,

Member of National Chrysanthemum Society, Inc., U.S.A.

GROWING chrysanthemums or "mums" as they are commonly called, can be a most rewarding experience. Today the chrysanthemum is such a popular and familiar flower in modern American gardens, it is startling to know that at one time a single plant of a new variety sold for fifteen hundred dollars.

It is generally accepted that the chrysanthemum, native to China, is the original flower from which our cultivated varieties have come. In the last hundred years many varieties of chrysanthemums, differing in size, form, and color have been developed. With the many types now available there are mums to suit everyone's tastes.

Even though the varieties are many and varied, here in our "Mile High City" one should choose the kinds and types that grow best and bloom early, preferably before the fifth of October.

The cushion type mums are easy to grow as they need less care than other types. They come in three heights: dwarf, semi-dwarf, and the taller cushions. One can buy many varieties that bloom early and they are good for borders or growing in pots. Other varieties that grow well for me are the buttons and pompoms, the early blooming English types, the singles and carnation flowered, and a few varieties of spoons. The largest group is the hardy or decorative mums, of which there are many that are excellent for growing in Colorado. The quills and Spider or Fuigi mums and the anemone and cascades bloom too late for us; however, they can be grown in pots and moved inside for late blooming.

A few of my favorite varieties are Bronze Queen, Purple Queen, Pink Pompom, Minnpink, Adorable, Gold

Standard, E. H. Hopert, Apache, Bronze Giant, Holiday, Malinda Brown, Dr. Longley, Mohave Gold, Crystal Maid, Avalanche, Alert and many others.

Chrysanthemums can be propagated by seeds, division, or stem cuttings. The simplest way is by division. This is the practice of cutting or dividing a plant into several small parts, each of which has roots, a stem, and leaves. Spring seems to be the best time to divide mums although they can be divided in the fall. Take a spade and dig up the entire clump, then use a sharp knife to divide the clump into several parts. Always throw the woody, center part of the clump away and keep the new outside shoots.

Probably the best method to use for propagating is stem cuttings. When new plants are six to eight inches tall, cut or pinch off three or four inches of a branch. Trim the leaves from the lower inch of the branch, dip in Rootone or Flowerite, then place in clean sand, sand and peat mixture, or vermiculite (I prefer the vermiculite), pack the media so there are no air holes, keep the cuttings well watered and in the light, avoiding direct sunlight. Plant the rooted cuttings in pots or flats until well established. When the plants are four or five inches tall set them out in the garden.

Mums are among the easiest of all hardy plants to grow, and will grow in a variety of soils. To have them at their best, give them a sunny location, well drained rich soil, and plenty of water. As they are shallow rooted do not plant them too deeply. Irrigating is preferable to sprinkling which is harmful to the foliage, especially the lower leaves of the plant. If there is ample organic matter in your soil

mums can get by with just one feeding, usually one application of 5-10-5 plus some superphosphate (1 teaspoon per plant), however, foliar feedings of Ra-Pid-Gro occasionally during the summer will not hurt them. Do not feed mums after the color is showing in the buds as it will harm the flowers.

Mulching of mums serves two purposes. As mums are shallow rooted, any but the shallowest of cultivation will injure them, and a good mulch will eliminate the need for cultivating and weeding. Mulching also helps conserve moisture, keeps the ground cool, and will keep the chrysanthemum's worst enemy, nematodes, from being splashed on them from the soil when watered. Nematodes cause the lower leaves of mums to turn brown and die. Saw dust, peat moss and grass clippings can be used.

Cushion mums do not need to be pinched but the garden hardies or decorative types should be pinched to keep the plants low and bushy. The first pinch should be made as soon as the plants are about six to seven inches tall (by pinch we mean breaking off the soft growing tip of the branch). Remove only the top one-half inch, if you feel your plants need a second pinch wait until they have grown another six inches. Most of my mums bloom so early I pinch them only once. Never pinch later than July 15th.

Ali except the low growing cushion mums should be supported or staked to keep them from falling over.

Mums are bothered with the same "pesky pests" as other plants; red spider mite, aphids, and thrips as well as leaf nematodes and powdery mildew. Malathion will control most of

the chewing and sucking insects and Captan will control most of the fungus diseases. Apply at two week intervals.

Mums can be moved *anytime* from the time they are set out until they are in full bloom. Keep the clumps well watered for a few days after moving.

Never cut a chrysanthemum, break the stem with your hands. The stems can be scraped, crushed, or seared to make the flowers last longer, and wax at the base of the flowers will stop petals from falling. Remove all bottom leaves before placing in water, change the water every day or add to what you have and the blooms will last for a week or longer.

The "Queen of Fall Flowers" is perfect for all types of arrangements and can be used with a great variety of other materials. They also adapt themselves to many different containers.

After a killing frost and the mums have turned brown put them to bed by breaking off the old stems within six inches of the ground. Pull off any leaves left on the stems and dispose of all leaves and tops. When the ground has become frozen cover your mums with excelsior, pine branches, or salt hay. Never use leaves as a mulch as they pack down, stay wet, and will rot your plants. Work your mulch down around the stems left on the plants. If no material is available for mulching leave the plants uncovered. Do not remove the mulch too early in the spring.

What is it that I find so completely absorbing about this particular plant specie? Can it be the long blooming season, the many types of flowers, the large array of color, or the ease of growing? Try growing chrysanthemums and you too will say "MUMS, the word" around our house.

It cost American taxpayers three million dollars to clean up litter from our national forests last year. Don't *you* be a litterbug. Help keep our forests and all of America . . . clean and beautiful!



Question:

What are systemic plant sprays or insecticides?

Answer:

These are poisons which are absorbed by the roots, stems, or leaves of plants and are translocated to all parts of the plant, so that an insect feeding on any part of the plant will be affected by the toxic material. There are several systemic poisons on the market; some of these are compounds containing sodium selenate, others contain phosphorous compounds. They may be effective for three weeks or more after application. At the present time their use should be limited to ornamentals, since the poison would be present in any part of a plant used for human food. Even the use on ornamentals has certain dangerous aspects, if there are small children or pets who are likely to put any part of the plant in their mouths. This is a comparatively new field, and probably one we will hear more of later on. Although some of these sprays are on the market, they are hazardous to handle, and should be used only by trained applicators. The future may

bring many new developments in this field.

Question:

While walking through Washington Park recently, I saw a clump of small trees or large shrubs near the south edge of the park. They had large clusters of bladder-like fruits, quite large and triangular in shape with three parts to the pod. Does any one know what these might be?

Answer:

These were no doubt Golden Rain trees. There is a planting of them in the location you mention. In July these trees have large sprays of yellow flowers, hence the name. The fruits are equally ornamental, and are also useful in arrangements.

This tree is being used more and more in Denver. There are now hardy strains which do well here. The botanical name is *Koelreuteria*. This tree is also known as the Varnish tree.

Ed. Note—We hope to make this page a standard feature in the Green Thumb. If you have any questions on gardening you would like answered, please let us know by card or letter and we will answer them in a future publication. The address is the Green Thumb, 909 York St., Denver 6, Colo.

Over 750 Americans are killed each year as a result of cars striking . . . or swerving to avoid . . . objects thrown on highways by litterbugs. Let's stop littering and help keep America safe, clean and beautiful.

Seasonal Suggestions for October



HILL UP ROSES



STORE BULBS



COMPOSTING



FALL CLEAN UP

Like ladies' fashions the garden has taken on a new look. The brilliant colors of summer have given way to the more subdued colors of fall. In nature this change is accomplished without fuss, but in the cultivated garden its an entirely different story. Here nature needs the helping hand of the gardener to put the garden in order and to prepare tender unacclimatized plants for the winter ahead.

Fall cleanup is a perennial chore in the garden, but perhaps the following suggestion might make it a bit easier. Instead of burning or hauling all the leaves and other organic debris to the dump, start a compost pile. This is a simple process and it does solve the disposal problem. All that is needed is a square yard or two of surface area, enclosed by a cylinder of fencing wire or a simple loose board fence. Fill the enclosure with alternating layers of the following material to a depth of 3 to 4 feet. First an 8 to 10 inch layer of leaves or other organic debris (coarse leaves and heavy stems should be ground or chopped up) add an inch of manure and a sprinkling of ammonium sulphate, then cover with 2 inches of soil. Water well then repeat the layering process. If all goes well the bottom layer of a 3 to 4 feet deep pile should be ready for use in the garden next spring. If composting doesn't appeal to you, you can use many of the leaves in the yard for mulching materials in your shrub and perennial borders.

Since many gardeners are growing plants with bulbs or tubers that have to be stored over winter. a word about their care is in order.

Gladiolus — Dig after the first frost. Allow them to dry for about 10 days in a dry, moderately warm location. When dry remove the tops, dust with DDT and Captan, and store in mesh bags or shallow ventilated trays in a dry cool (40-55°) place.

Dahlia—Dig after the first frost, removing the tops down to 6 inches. Store clumps upside down in moist peat or sand or divide and dip them in paraffin, then store in

vented plastic bags. Store at 40-50°.

Cannas—After the first frost, dig the roots with a large clump of earth around them. Store in a cool (40-55°) place.

Tuberous Begonia—Bring in before frost if possible. Allow the tops to dry until they pop off, then pack in moist sand or peat moss and store in a cool (40-50°) place.

While we are preparing these plants for storage we should also be planting others, such as the spring blooming bulbs. Tulips, narcissus, hyacinths, and crocus may be planted as long as the ground remains workable. Be sure to purchase good quality bulbs and plant them a little deeper than the standard recommendations; 3-4 inches for crocus, 8-10 inches for tulips, hyacinths, and narcissus.

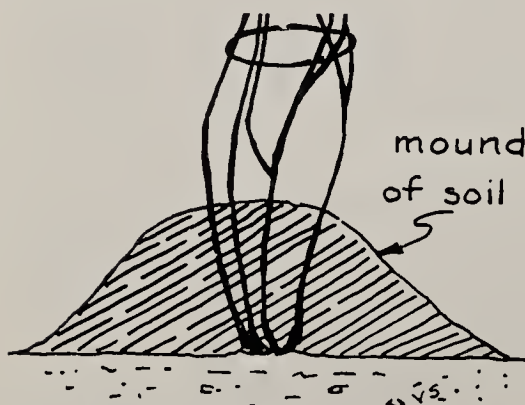
Probably the most important job to be done before freezing weather sets in is to give everything in the garden a thorough soaking. Grass should be watered to a depth of at least 12 inches, perennials and shrubs at least 24 inches and trees at least 36 inches. Don't put the hose away in an inaccessible spot as you may need to water again if the weather remains dry.

Trees and shrubs should receive some attention. Low limbs or branches that extend over walks should be cut off so that they do not block these passages when laden with snow. Certain large shrubs and some upright evergreens that have a tendency to open up and split with a heavy snow load should be tied up. To do this tie a cord at the base of the plant then wrap it spirally around the tree or shrub to the top, keeping it snug as you go. Make a loop at the top then return the spiral to the base and tie. Young trees with smooth bark should be wrapped with tree wrap to prevent *sun scald*. If you have large trees they should be checked by a competent arborist for weak branches that might be subject to storm breakage. He can also advise you on dormant spraying for the control of scale insects.

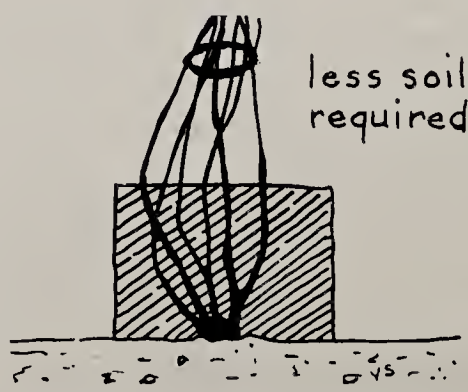
Roses should be covered in the fore part of November. While the mounding of roses is a debatable subject, we find it a must if you want to grow good show roses. Clyde Learned, our Rose expert, recommends mounding them up 6 to 8 inches and for this he suggests the wire mesh cylinder illustrated on this page.

When you've completed these projects there remains the clean up and repair of the garden tools and equipment before they are placed in storage. This is a good job to do when the weather is disagreeable outside.

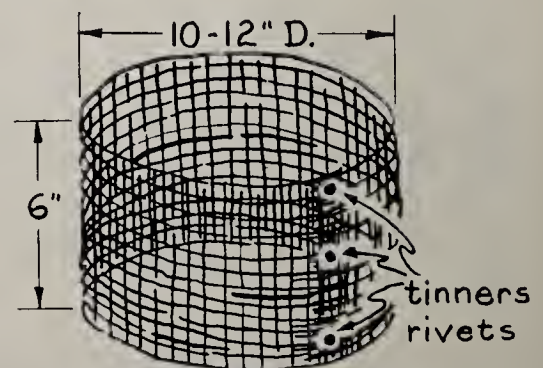
With the work completed we can now become rocking chair gardeners for the next few months. Garden notebooks can be brought up to date and we can begin planning next year's garden by reading and studying some of the good garden books and periodicals available to you as a member at the Helen Fowler Library, 909 York Street.



Conventional method of mounding roses.



Clyde's method of mounding roses.



Sketch showing how to make wire mesh cylinders.



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The Green Thumb

Magazine for Rocky Mountain Gardeners



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APPLE DOLL LADY
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DOUBLE LIFE
OF A
SOAP SUD
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NOV.-DEC.,
1959
25 Cents

SEASON'S GREETINGS





Season's Greetings

We appreciate the patience of our friends and customers in the delays resulting from the unseasonable snowstorm in September.

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Vol. 16

No. 10

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The Green Thumb

Colorado Forestry and Horticulture Association

Organized in 1884

"To preserve the natural beauty of Colorado; to protect the forests; to encourage proper maintenance and additional planting of trees, shrubs and gardens; to make available correct information regarding forestry, horticultural practices and plants best suited to the climate; and to coordinate the knowledge and experience of foresters, horticulturists and gardeners for their mutual benefit."

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909 YORK ST.

DENVER 6, COLORADO

Members



Calendar of Events

The Green Thumb Program — Every Saturday morning on KLZ at 10:15 a.m.

Floral Art Course: Opportunity School. Every Thursday 9 a.m.-11:30 a.m., 1 p.m.-3:30 p.m., 6:30 p.m.-9:15 p.m. There is no charge except for materials.

BOTANIC GARDENS' HOUSE

MEETINGS

909 York Street

December 9—Organic Gardeners, 8 p.m.

December 11—Colorado Forestry and Horticulture Finance Committee, 10:30 a.m. Colorado Forestry and Horticulture Board Luncheon, 11:30 a.m. Colorado Cactophiles, 8 p.m.

December 24—Civic Garden Club, 1 p.m.

January 5—Mountain View Garden Club, 1 p.m.

January 6—Botany Club, 7:30 p.m.

January 8—Colorado Forestry and Horticulture Finance Committee, 10:30 a. m. Colorado Forestry and Horticulture Board Luncheon, 11:30 a.m.

January 11—Judges Council, 10 a.m.

January 12—Evergreen Garden Club, 7:30 p.m.

January 13—Organic Gardeners, 8 p.m.

January 14—Denver Rose Society, 7 p.m.

"Fun With Flowers"—A lecture and demonstration is followed by the making of arrangements. Each person brings containers, mechanics, and material. The workshops are open to everyone. Due to popular demand the workshops will be held each month at the following times and places:

Workshop No. 1 — Botanic Gardens House, 909 York St., Denver. Third Wednesday of each month, 9:30 a.m. to 12:30 p.m.

Workshop No. 2 — Lakeside Denver Dry Goods, 44th and Harlan, Denver. First Friday of each month, 10:00 a.m. to 2:00 p.m.

Workshop No. 3—Arapahoe County Fair Grounds, W. Belleview and Windemere, Littleton. Third Tuesday of each month, 9:30 a.m. to 12:30 p.m.



Best Wishes for the Christmas Season

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Operation

Tree

Salvage

By PAT GALLAVAN

CHANCES are that the effect of the tranquilizer bulletin in the last Green Thumb has worn off. We can now carefully appraise the damage done to our trees. On streets where brush removal has been completed, it is easy to see that many trees, though battered and misshapen, are not a total loss. Now that the leaves have fallen, split crotches and stubs left in emergency removals are much in evidence. Our previous bulletin mentioned that there was no rush in doing this type of repair work, as long as it is completed by the time growth starts in the spring.

This final repair work, for the most part, should be done by a professional tree surgeon. Sawing off a limb isn't quite as easy as falling off a log. First of all, in large trees the danger of falling is a major hazard for the amateur. Secondly, improper pruning can be quite detrimental to the future growth of the tree.

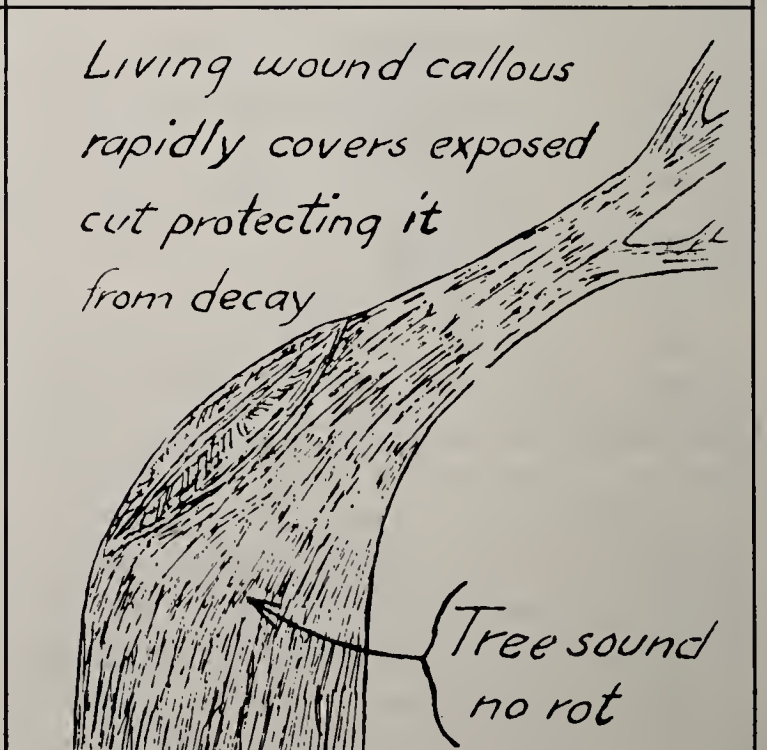
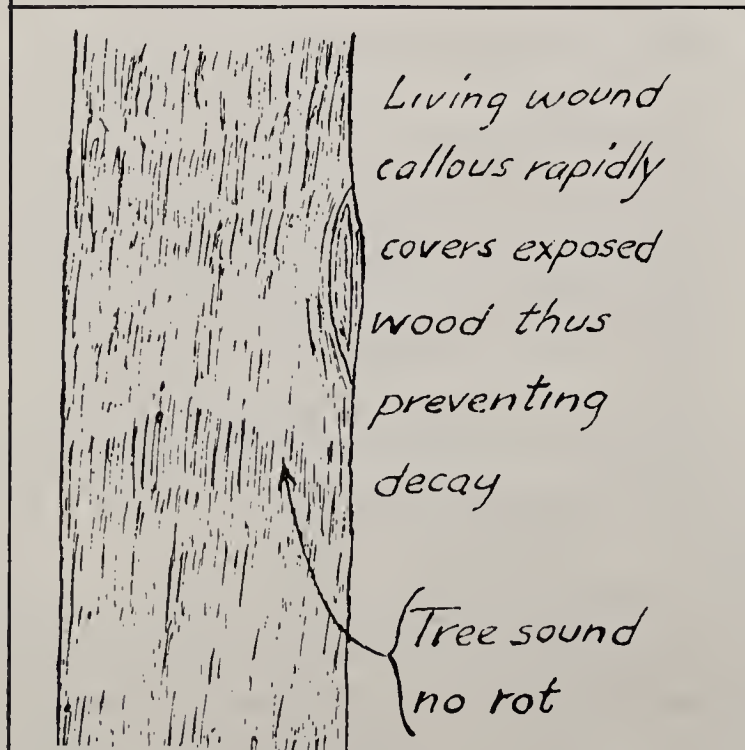
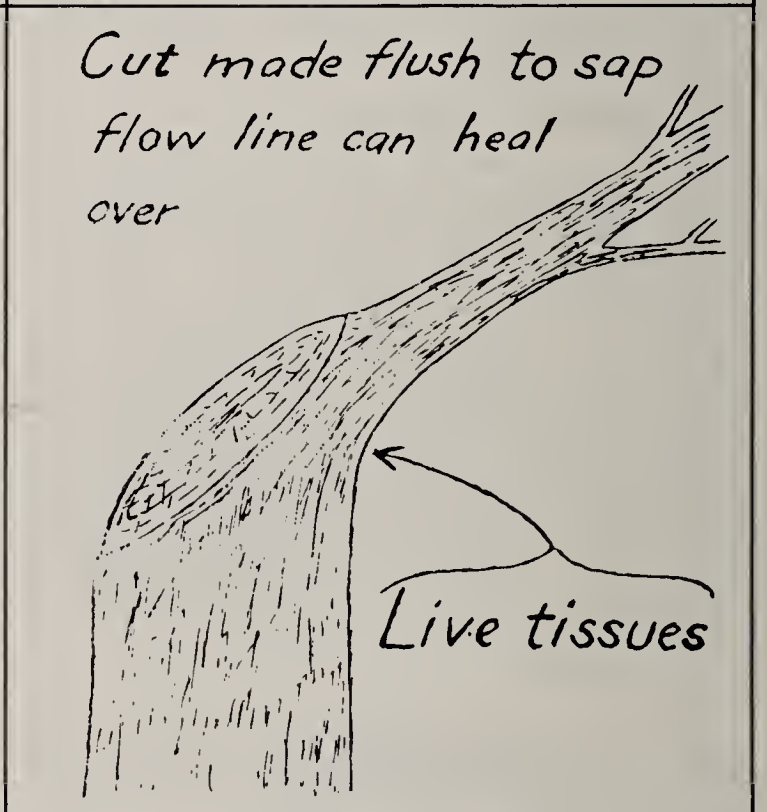
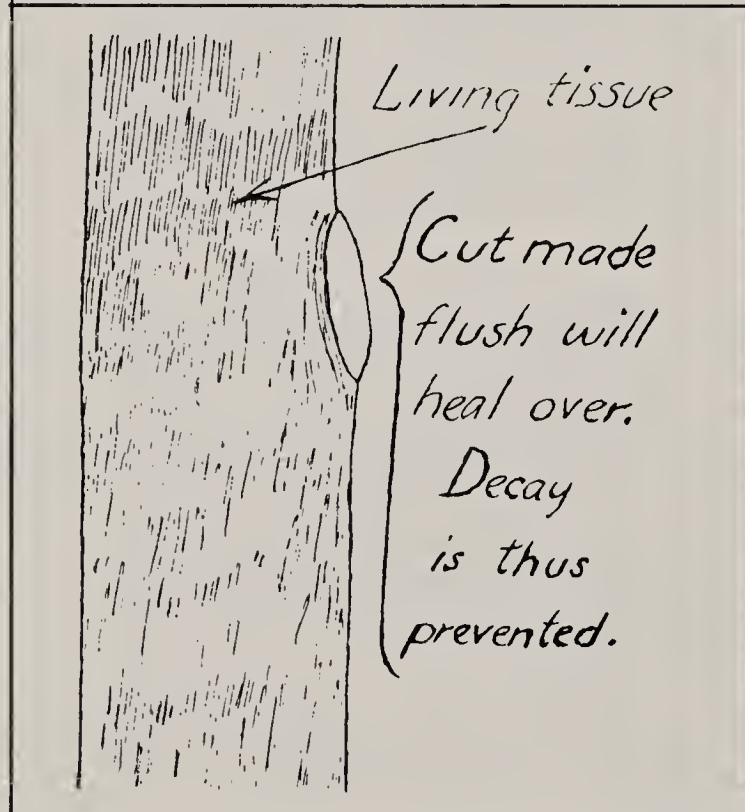
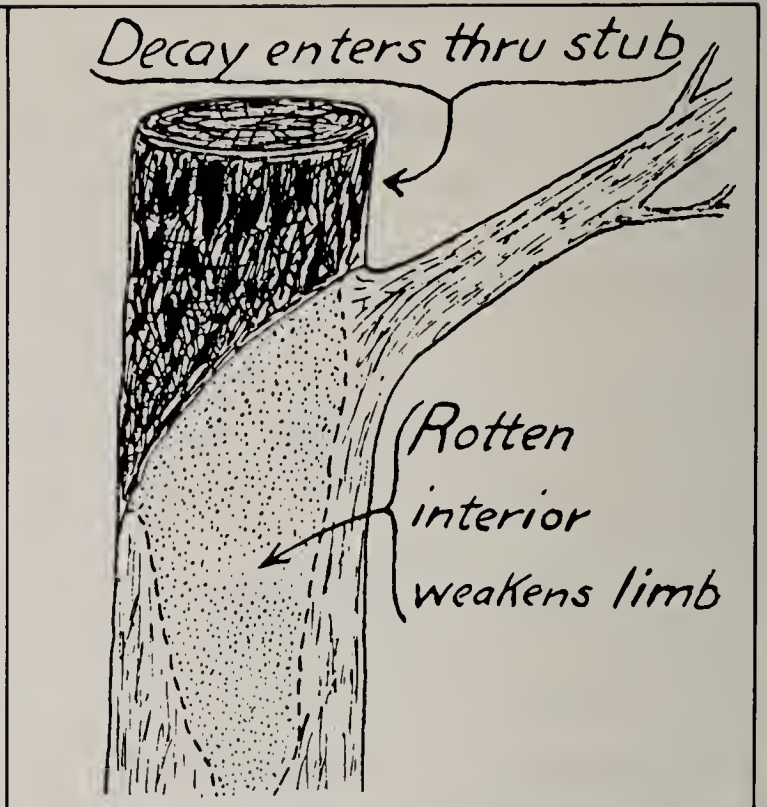
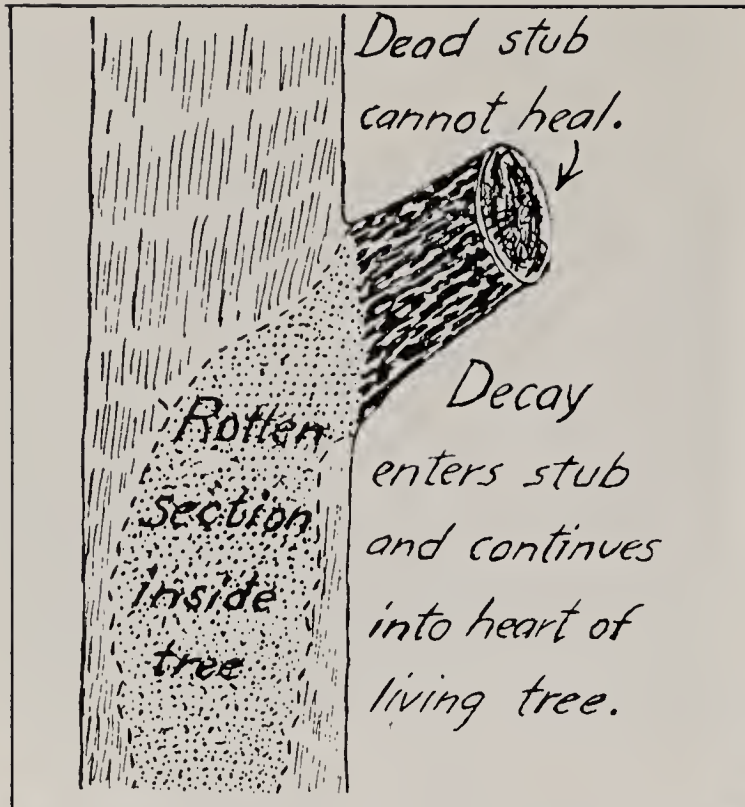
Under normal conditions we have enough good tree men to adequately take care of our trees. This storm, however, has put a great burden on the existing tree companies and has opened a tempting field to a lot of unqualified and unscrupulous people. These persons, armed with a pick-up, a ladder and a saw, can ruin a good tree in an hour's time. Don't be afraid

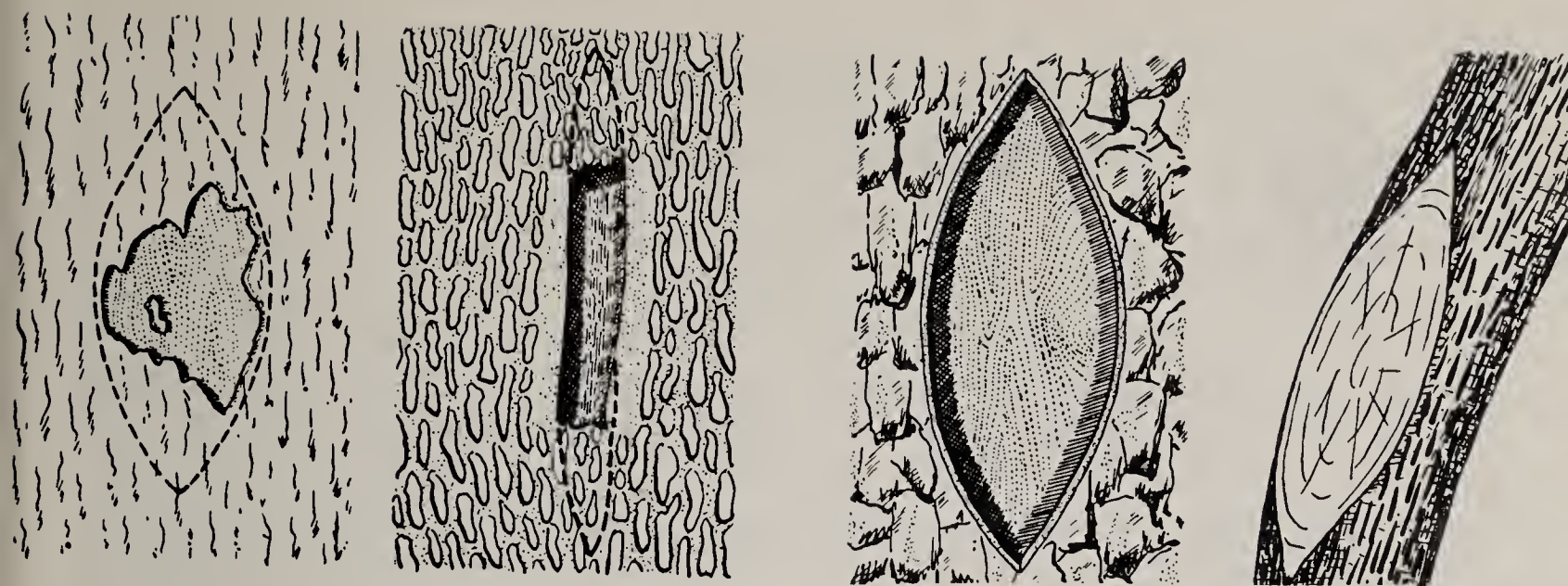


to ask for credentials; a legitimate operator will gladly produce them, and recommendations if necessary. Above all, if you are not sure of his qualifications, watch his work for the mistakes explained and illustrated in this article.

To know a good pruning job from a bad one it is necessary to understand a few principles of tree growth. First of all, a tree, like all plants, is a living organism. We know that it manufactures its own food in the leaves. Raw materials, water and minerals, taken in by the roots are transported up to the leaves and there, in the presence of sunlight and chlorophyll (green matter), are converted to simple food. These in turn flow back through the tree, nourishing growing cells throughout the plant. This intricate transportation system and a layer of active growth cells lie just beneath the bark. There are a number of theories on the forces that put this system into motion. However, for our purposes it is evident that the foliage of the tree is essential to this process. It stands to reason then that we can't just lop off all the major branches of a large tree and expect it to survive.

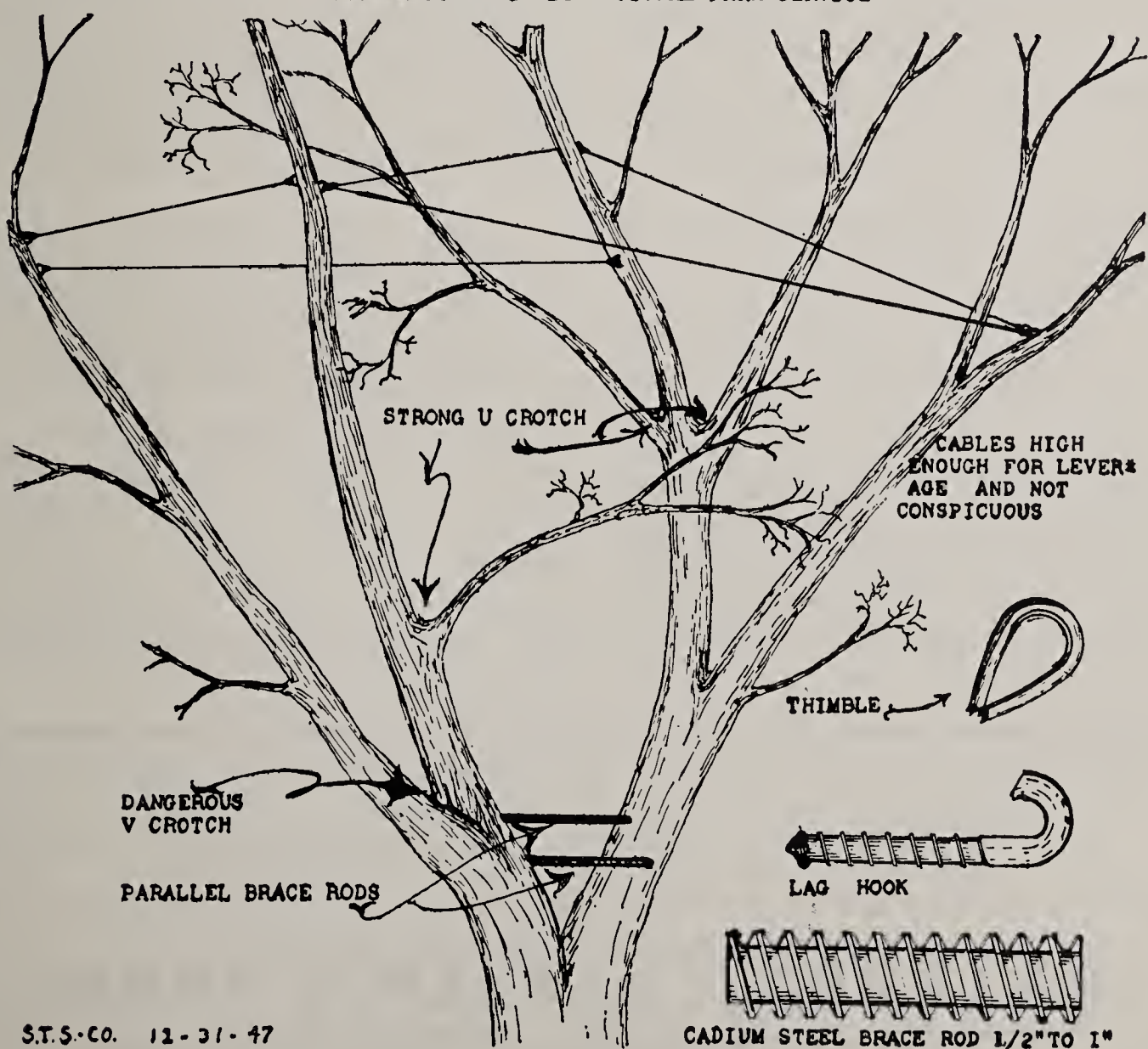
Granted that in some cases pruning will have to be severe, but if it is done properly the tree will have a chance to live. When a large branch is cut off





Methods of properly pointing up a wound.

TRIANGULAR CABLING & BRACING SYSTEMS AS INSTALLED BY SWINGLE TREE SURGEONS
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S.T.S.-CO. 12-31-47

CADMIUM STEEL BRACE ROD 1/2" TO 1"

*Trees with weak crotches, heavy limbs or storm damage
may be saved with proper bracing and cabling.*



Careful Maintenance of Shade Trees

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Harrison 4-6112

and a stub is left, the growth processes stop in the projected stub, but continue their natural course of flow at its base in the parent branch. Each year as the tree grows it builds up a new growth ring around the stub. This is noted as a swelling, and will continue to grow in size each succeeding year. In the meantime, the dead stub is exposed to the elements and begins to rot away. In time it will decay back to the stem or trunk and be sloughed off and the original wound may close over with new growth rings. Usually before this happens, the organisms causing decay of the stub enter the main stem and begin their slow but deadly work there, so that in time the entire tree may become decadent.

If, on the other hand, the limb is cut back flush to the parent limb or stem, we find that the sap flow and growth ring still occur around the wound, but that each succeeding year the ring occurs inside the cut area. In time this growth will completely enclose the wound. On a small wound of an inch diameter this sealing may take place in several years' time. Larger cuts will, of course, take more time and to prevent decay while they are healing a good tree paint should

be applied to seal the wound until natural growth heals it over.

In addition to eliminating the stubs, other repairs might have to be made. In some cases the branches broke at their point of attachment on the parent limb and have peeled back the bark, leaving a jagged and irregular shaped wound. As indicated above, the new growth follows the easiest and smoothest path so that in such cases the wound needs to be shaped to allow for the quickest possible healing. From experience it has been found that a vertical elongated oval is the quickest to heal over, as it follows, as close as possible, the natural flow of material in a plant. This method is illustrated in the accompanying sketches.

Another repair that may be necessary is the cabling and bolting of split or weakened crotches. This is based on engineering principles and should be attempted only by an experienced arborist. The sketch on page 331 shows one application of this method.

As mentioned in our tranquilizer bulletin, our trees have had a good growing year, and with proper care this winter, can come back quickly in the spring.

These things we think of when we say: "We wish you joy on Christmas Day."

Peace that fills your life and heart, gladness that will not depart; hope to constantly abide; Faith that God will safely guide — these things we think of, pray for, too, when wishing Christmas joy for you.

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Tax Deduction for Trees Lost in Storms

From The Shade Tree Digest

Were any of your fine shade trees wrecked by the September snowstorm? If so, a bit of foresight and effort on your part now may result in considerable savings to you when the time comes to pay your 1959 Federal income tax. For, usually, residential property is more valuable with trees than without, and if the value of that property is lessened as a result of storms the amount of the tangible loss is deductible in computing income tax returns.

Any loss claimed must be based upon material value. A tree may become "almost like a member of the family" in your esteem — but don't use that approach if you have occasion to evaluate it as "deductible loss!" However much Government tax officials might agree with you in sentiment, they are permitted to measure the worth of a tree only by its effect upon the market price of the "real estate" — including land, buildings and other trees — of which it is an integral part.

Relative to computing the amount of deductible loss, the Bureau of Internal Revenue advises as follows: (1) The "apparent loss" of property is the difference between the fair market values of the property immediately before and immediately after the casualty. (2) Compare the "apparent loss" with the adjusted basis of the property. (3) The "loss sustained" is the apparent loss, or the adjusted basis, whichever is the lesser. (4) From the loss sustained subtract the amount, if any, of insurance or other recovery. (5) The balance remaining is the "loss recognized" for income tax purposes.

Thus, computing the amount of the "loss" hinges upon determination of "fair market values," and, unfortunately, there is no exact mathematical formula by which this can be ascertained. Clearly, any "loss" claims should be supported by positive evidence. Such evidence might include photographs, and certainly reports from experts in the particular fields involved in the loss.

Shade trees certainly add to the value of a property. If one is destroyed by a storm, measuring the extent of loss to the property is a matter requiring technical knowledge and good judgment. The value of a tree is affected by species, age, condition, location and other factors, and to arrive at an estimate which will survive close scrutiny by tax officials all pertinent factors must be considered. Data intended for use in support of a loss claim should be gathered, of course, as soon as possible after the casualty.

Further tree damage can be expected from ice storms in the months ahead. If any of your trees have been, or are, lost from such "natural physical forces" it will pay you to remember that their value — at least, for tax purposes — can be measured in dollars-and-cents.

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HANDY HINTS FOR HOLIDAY PACKAGING



1. Shop early enough so that you'll be able to choose a variety of both traditional and brightly colored foil and printed foil wraps. Don't neglect to select some of the convenient cutter box papers and the king size fold holiday papers that make wrapping a large gift so simple.

2. Give each package a character of its own by selecting a paper to suit its size or to complement the personality of the recipient.

3. Select ribbon or additional package decorations to complement your package. Small boxes require a more subtle patterned paper than a larger size package.

4. To make the job a little more organized keep all wrapping supplies including scissors and cellophane tape together in a large box. After these preliminary preparations select a large enough work area, assemble your materials and start wrapping.

Photos Courtesy Dennison Mfg. Co.



The Extraordinary Apple Doll Lady

By LILYGAYLE FLEISCHER

SHINY red apples on the grocer's shelves beam their way into the shopper's basket as a focal point in an autumn table arrangement before they become the ingredients of a festive mealtime table delicacy, or so I thought until I met the "apple doll lady" at the recent Colorado State Fair.

Standing beneath the traditional emblem of the Red Cross, and clad in the costume of a Gray Lady, Mrs. Attie (Nick) Provinzano, radiated good cheer as she greeted the visitors that paused to view her display of curio-oddities within the glass showcase.

She extended her hand in welcome as I approached and we were soon oblivious to those about us as we renewed and reviewed old acquaintanceship and activities.

I remembered her as a Corona Park Garden Club member, when we returned to Pueblo during the depression days, for I had been fascinated by her verve and stamina. Though mother of five children, she was an active P.T.A. worker (for 19 years) and the dynamo that sparked the enthusiasm of her chosen garden club, organizing and directing a Hill Billy



Mrs. Provinzano with her display of dolls and curios at the Colorado State Fair.

Band with great gusto. They presented programs in the city and surrounding areas, and derived greatest pleasure from entertaining shut-ins.

Unable to read a musical note she developed her own system of teaching others to play the harmonica (she played in the band) and the accordion; thus revealing the rugged individualism, natural instincts, quick thinking, determination and consideration for others that was so pronounced in both Kit Carson and Tom Tobin, her great-grandfathers.

These intervening years hadn't dimmed her enthusiasm for meeting and helping people, it seemed, and I listened intently as she shared her knowledge of fashioning doll heads from various fruits; apples, peaches or pears.

"What started you on this hobby?" I asked.

"My grandmother in Germany sent me an 100 year old apple doll and I planned to keep it clean, so I placed a glass jar over it. It soon disintegrated and I was heartsick about it."

• "How old were you then?"

"Oh, about 10. My mother dried my tears when she suggested we go into the orchard to find an apple and

thought I might be able to reproduce another."

"How do you begin?"

"By peeling the apple and setting it aside to dry, but pinching the features in during this drying process."

"What do you use for teeth?" a bystander asked.

Mrs. Provinzano smiled as she said, "Lima beans, and see what I make of the skins of the lima beans, small artificial rose buds."

The conversation became more animated as others questioned her. She explained that apples shrink to one half or one third their original size during the drying period and this gives the appearance of wrinkled skin. She devised a scheme to overcome the wrinkles and gently massaged cold cream into the apple doll. "It takes three weeks for it to dry into wrinkled

features and it takes three weeks to massage those wrinkles out, for all time." The apple heads retain the soft texture indefinitely, for they pick up enough moisture from the air to retain the texture, but not enough to rot. These heads are mounted on sticks, i.e., clothespins, and inserted into bottles. These are draped with a dress or tunic suitable for the subject, thus eliminating the need for making a body or wire base.

A mask fashioned from half a grapefruit and one of an orange were pointed out. She cautioned would-be hobbyists against using a knife to define the features, as the acid in the fruit rots the knife (metal) incisions. Toothpicks should be used for this procedure. Wall paper cleaner is used for the clay to fill the scooped out citrus fruit, pinching in the nose, punching out the eyes and mouth with toothpicks.



Mrs. Provinzano and her exhibit at the International Hobby Show in California.

"What about this Nun doll's head? It's very pale compared to the apple doll's head."

"Oh, they're fashioned of hard and dry marshmallows."

"But how do you fashion the features?"

"I use an emery board to hollow out the depressions. I save all the powder that falls during this process and mix it with rouge and gently rub it into the cheeks for a bit of color."

"Do they need a protective coating to keep them?"

"Yes, I learned by trial and error, for one doll was sent to India and the ants got at it, so I instructed them to send the head back to me and I'd make up another in exchange. The coating of shellac preserved it, even from the ants."

"What's this jewelry made of?"

"Some of it's made of bubble gum. I neglected to coat it with a preservative when I first learned to fashion flowers from it, and one day in summer I could feel the earring lengthen, so I removed it to experiment with a coating of shellac, and it worked."

"This Indian head looks like a wall plaque."

"Yes, and it's made of old bread."

"Old bread? I usually feed mine to the birds."

"Heavens, at my house everything is used to fashion some sort of plaque, or doll head or picture. I soak the old bread in a very little water then squeeze it dry, and add about $\frac{1}{4}$ cup salt to 1 cup of the bread dough and knead it. It will rise after salt has been added, but it will eventually stop rising and you will have a good clay to fashion your figurines with. Take this cowboy plaque. The plaque itself is papier-mache, the figure of the horseman of various materials; the upper body of gum, the chaps of dried banana peelings that are fashioned over rolls of clay, the seams laced with

thread, and they dry resembling leather."

"And this picture of apple blossoms?"

"Oh, that's made of wall paper cleaner. I dye portions of it and use it for earrings and children's dishes as well as for wall plaques or framed pictures. I dilute the mixture used as background."

"Dilute it? With what?"

"Water, but only to the consistency of cream, then I cover the backing, usually a piece of cardboard. When that is dry I use a thicker mixture and press a bit, about the size of my thumb, on the prepared surface and add more petals until I have the desired picture. That one was made up so that you could hang it from any side and it would show flowering branches."

Her most famous doll is the Kit Carson doll, patented and registered with the Doll Guild of America. The buckskin suits are made from old leather jackets. She carves the wooden guns and uses the spurs from chicken legs for the powder horns. A coon-skin cap and a cowboy hat complete each outfit. Although they sell for twelve dollars, these dolls are in great demand and there is a great backlog of orders.

She believes that everyone should have two hobbies, because a single hobby can become monotonous. As one alternate, she exhibits Indian belts made from pounded out soda pop bottle tops laced with colored yarn. She also works down gnarled tree roots for use as lamp stands.

Mrs. Provinzano has traveled thru-out the west exhibiting her dolls, which range from pioneer scouts to Indians and Mexicans, at various fairs. At the International Hobby Show in California, some years ago, she won a first place ribbon for "Ingenuity".

She possesses the abiding faith in Divine guidance and protection that

was her grandfather's, believing that she is on this earth to help others. She believes sharing brings its rewards, for often a remark dropped by another will open up a door to new achievements, and she has an illustrious record of achievements to her credit.

Records reveal that she taught swimming for the Young Women's Christian Association, hobbies and handcrafts for the Steel Works Young Men's Christian Association and devoted many years to showing crippled children at the St. Mary's Hospital pediatric ward how to generate their own sunshine by making things with their hands, often deformed hands that responded slowly to determined little minds. She also taught harmonica and handicraft at Sacred Heart Orphanage.

The Provinzano home is called the Kit Carson Rancho, part dream and

part reality, because Attie hoped some day to acquire a mountain ranch, destined to become a summer camp for boys, that they may know some of the wonders of nature, and the pleasure of living under the stars among the pines.

Whether this dream becomes a reality remains to be seen. Though she conquered serious injuries, she is familiar with the shadow of bereavement; a daughter, some years back, and most recently, last March, the husband who had planned to work beside her to enjoy her worthwhile hobbies that she now teaches to boys at Fort Carson.

As for me, and her close friends, the sight of polished apples and citrus fruits will always be a bright reminder of the vivacious, courageous sunshine lady who now operates a Hobby Shop at Beulah, Colorado.



Photo Courtesy Florist Telegraph

FLORAL DESIGNS POPULAR AT CHRISTMAS

This table arrangement of carnations, holly and candles (above) forms an unusual background for a display of holiday greeting cards, and ranks high with all members of the family as a Christmas gift. This Christmas more Americans than ever before in history will give "Flowers for Christmas."



Photos Credit Cleanliness Bureau

What better way to keep the small fry occupied on a holiday afternoon than painting a Christmas mural on the living room mirror with easily removable "suds-snow." An outline drawn on the mirror with a soap sliver or a grease pencil can be an easy guide for the young artists to follow. After the holidays, the suds painting can be washed away with a damp cloth, leaving the mirror shining clean.

DOUBLE LIFE OF A SOAP SUD

IT'S Christmas . . . visions of sugar plums dance in children's heads, What do *you see* — too much to do in a short time?

Those last-minute decorative chores, for example. Will they send you scurrying? You can end such anxieties — swiftly, and easily — with soapsuds.

That's right — *soapsuds*! It's a novel way to complete holiday projects; glistening suds whipped up like snow will decorate your Christmas tree and gift boxes . . . adorn your creche . . . bring three-dimensional artwork to your mirrors and windows . . . provide an effective safety valve for your youngsters' excitement.

"Suds-snow" not only works like magic, it's as simple to produce as

rubbing Aladdin's lamp. All you do is pour several cups of packaged soap (or detergent) and a minimum of water into a bowl. Beat with an electric or hand mixer until suds have the consistency of whipped cream — and you're ready to decorate!

Start with your Christmas tree. Realistic suds-snow will bring that white Christmas to your evergreen — no matter what the weather *outside*. Using a spoon, drift some "snow" artistically on the boughs of your tree.

If the tree is white, add vegetable coloring while mixing your suds to achieve a beautiful color contrast. (A similar "snowfall" provides just the right decor for the roof of your creche and on holly and evergreen sprigs that surround it.)



Invitation to the family to gather round for Christmas carols—the piano topped with a creche and holiday greens. Snow suds on the creche and branches add beauty to the scene. That big tree-background is red paper, decorated with home-made snowflakes made by squeezing a thick soap-and-water mixture through a cookie press. When dry, glue them to the paper with rubber cement.



This little Christmas tree never saw a forest—or real snow either for that matter! But here it stands, proudly laden with lacy golden cones, made of gold paper doilies, and filled with toothsome sweets. A delightful young decorator is heaping the life-like plastic boughs with suds-snow as beautiful as any in the great outdoors—only not so perishable.



This youngster is just bubbling over with enthusiasm for her artwork. She feels just like one of Santa's helpers at the North Pole—because she's able, with a bowl of suds-snow and tempera paint, to make almost all the Christmas presents for her gift list. Shown here are a stationery holder and a pencil holder for her dad; the picture above is for mother to hang in the playroom; and the Christmas card holder is a gift for the house!

After "frosting" your tree, complete your decoration with distinctive ornaments made from the same basic soap — but mixed to a stiff, dough-like consistency. For example, fill a cookie press with these thick suds. Then press snowflake circles or diamonds—with holes in the middle — onto a cookie sheet, and add glitter for a sparkling touch. Let them dry for 24 hours and they're ready to be tied to the boughs of your tree with colorful ribbons or strings. You can also glue them to any flat surface.

Versatile suds-snow comes in handy for decorating gift packages, too. Just wrap your presents with attractive paper . . . fill a pastry tube with medium dense suds . . . and you're ready to "draw" any appropriate design for the occasion — initials, messages, snowflakes, candy cane, or what have you. Place these on the broadest surface of your box and accent them with holly sprigs or miniature balls. You'll find you've created the most distinctive packages under your tree!

There's one more happy side to the advent of snow-suds for the Yule season. They provide a constructive medium for your children — a happy outlet during your flurry of Yuletide activity. Let them have fun decorating

the mirrors and windows of their rooms with Christmas pictures. Armed with no more than paint brushes and a bowlful of thick suds, they can create striking 3-D effects — that wash off after the holidays easily as any soap does, leaving your mirrors and windows cleaner than ever!

Youngsters can also make Christmas gifts from suds! One idea: a pencil holder made from an empty frozen juice can. First, the top has to be removed. Then your child colors the can, using a mixture of one teaspoon of soap or detergent to two or three teaspoons of tempera. This is an important recipe because tempera paints adhere to shiny, waxed, or metal surfaces only when soap or detergent is added.

After the paint dries, Junior or Sis can design a suds-snow picture over it to provide an eye-catching decoration — and an attractive gift for any member of the family.

No matter which of these refreshing soap-suds decorations you use, remember to let it dry for 24 hours. It will remain bright as frost in the moonlight for a Christmas-through-New Year's decoration that brings cheer to your holiday guests.



A Viking legend has it that the Lord sent his three messengers, Faith, Hope, and Love to aid a missionary by seeking out a tree for lighting that was as high as faith, as eternal as hope, as wide spread as love, and which bore the sign of the cross on every branch. After due consideration, they selected the balsam fir as the tree most nearly meeting these specifications.

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DENVER BOTANIC GARDENS

Photos by Jack Fason

Left—The Alpine Unit—This natural area is located on Mt. Goliath above Echo Lake. Here foot trails lead through timberline trees, rock formations and carpets of alpine flowers. The first of our zonal units, it will serve as a testing ground for high altitude and Arctic plants.

Upper Right — Botanic Gardens House — This unit, acquired in March, has become the center of horticultural activity for the metropolitan area. Over 6000 persons have made use of its facilities for meetings, lectures, and information.

Lower Right — The Herbaceous Unit — Also newly acquired, but showing considerable progress. Major construction items such as the fence, sprinkler system, walks and parking lot are completed. In addition there are plantings of roses, iris, hemerocallis, annuals, peonies, tulips and some lawn area.

Below—City Park Unit—This area of approximately 100 acres now contains the major collection of roses, lilacs, evergreens, iris, crab-apples, tulips and chrysanthemums.





FRANKINCENSE AND MYRRH

The Bible says that when Jesus was born in Bethlehem, "behold, there came wise men from the east". It does not say how many but tradition has it that they were three magi or, perhaps, three kings. "And when they were come into the house, they saw the young child with Mary its mother, and fell down, and worshipped him: and when they had opened their treasures, they presented unto Him gifts; gold, and frankincense, and myrrh."

At the end of His life on earth, after the crucifixion, we are told that Nicodemus brought a mixture of myrrh and aloes, "about an hundred pound weight", which they placed in the linen shroud, "as the manner of the Jews is to bury."

Throughout the Bible, including the 37th chapter of Genesis and the 18th of Revelations, those two exotic spices — frankincense and myrrh — are mentioned again and again. When Jehovah spake unto Moses on Mount Sinai, specifying how the tabernacle, the ark and the altar must be built, He also commanded that the holy ointment should contain prescribed quantities of pure myrrh and three other spices mixed with olive oil; further, the sacred perfume or incense should contain equal quantities of pure frankincense and three "sweet spices".

These and other ordinances in the Mosaic Law were probably influenced by customs and observances in Egypt where the Children of Israel had lived for 430 years and Moses had grown up as a prince in Pharaoh's court. For thousands of years, spices had been brought to Egypt by camel caravans from India, Arabia and eastern Africa. From them, by secret formulas, the priests prepared several perfumes and ointments for religious rites and domestic use. At the feast of Isis the burnt offering was an ox, its body filled with frankincense and myrrh. When embalming their dead, the body was filled with myrrh, cassia and other fragrant materials, dried, wrapped in fine linen, and placed in a painted wooden case.

Frankincense is a fragrant gum resin obtained from three or more of five species of trees — *the Boswellias* — that grow in Abyssinia and Somaliland in Africa, southern Arabia, India and the East Indies. Usually of small or medium size, they are related to the terebinth or turpentine tree and their compound leaves, with 7 to 9 glossy leaflets, are similar to those of a mountain ash.

The gum, obtained by making deep gashes in the trunk and branches, and peeling back a few inches of bark below each cut, oozes in large white or amber "tears". After 3 or 4 months exposure they become hard and brittle, and are collected. During handling and shipping they become covered with white dust from rubbing against one another. They ignite readily, burn with a clear white flame, and give off a fragrant balsam-like odor because, in addition to resin and gum, they contain a volatile inflammable oil. The incense burned in a censer or thurible during rituals of Roman and Greek Catholic churches is a mixture of frankincense imported from India, Egypt and Somalia.

Myrrh, also a fragrant gum resin, is obtained by similar methods from two species of shrubs or small trees that grow on rocky places in Abyssinia, Somaliland and Arabia. Their bark and wood have a strong fragrance. The gum, as it oozes from the stems and branches naturally or from the incisions made, is at first a soft sticky, somewhat oily, white or yellowish brown resin very bitter to the taste. It soon hardens into reddish-brown beads.

—From *Nature Bulletin Forest Preserve District of Cook County, Ill.*

The Widening of Colorado Boulevard at City Park

By J. HARRISON BELKNAP

OUR Association membership is indeed interested in the highway system within our city, and we are also interested in the beauty of Denver and our parks and their usefulness. The widening and relocation of Colorado Boulevard has been watched with interest and we are convinced that that important thoroughfare has been improved greatly. But we are concerned that in this improvement our fair city has lost valuable park area and that a beautiful planting of American Elms has been destroyed. Our concern is greatest because we fear that other contemplated highway changes may cut further into our dedicated park lands.

In the light of the very definite interest of the Colorado Forestry and Horticulture Association in the welfare of our people, and the usefulness and beauty of the dedicated park lands, I have been asked by the Editorial Committee of "The Green Thumb" to study and report on the Colorado Boulevard situation and to provide a layman's analysis of the legal aspects as presented in the "Brief of the Plaintiff in Error". That brief was presented by Mr. I. H. Kaiser, attorney for the "Plaintiff in Error", Mrs. Madaline M. Welch.

First of all, as I see it, I should provide some background for the Colorado Boulevard project. This I will do. It is known that the State Department of Highways has had a right-of-way through the city for Colorado Boulevard. That right-of-way embraces land that has been a part of City Park and land that, to all intents and purposes, has been a part of the private properties abutting on the boulevard. It was decided by the State Department of Highways to re-

align the boulevard and in the widening to cut largely from the park area on the west, or park, side of the thoroughfare, and to use only a small portion of the right-of-way on the east side of the boulevard, opposite City Park. On the basis of that decision all of the right-of-way land on the City Park side would be used for the realigned and widened highway, and an additional 17 feet of dedicated park land would also be used. This means that a total width of 35 feet would be taken from City Park. On the other hand, the right-of-way strip on the east and private property side to the street edge of the then existing sidewalk only would be required for the proposed realigned and widened street. Our City Council agreed to this decision and set up two enabling ordinances. In addition it was agreed, in a somewhat inconclusive interpolation, that the city would be given eight thousand dollars for the dedicated park land taken, or to provide new trees to compensate for those that would be destroyed as a result of the widening of the boulevard. Now, we are all aware that the realignment and widening of the boulevard has been accomplished, and we know that dedicated park land has been taken from City Park.

In the initial court action the plaintiff asked for temporary and permanent restraint to prevent the use of dedicated park land for other than park purposes. But at the suggestion of the court, she agreed to refrain from pressing her motion for a preliminary injunction, with the understanding that the issues raised by her motion could be dealt with at once at the trial. The defendant agreed not to permit construction on the dedicated park land

until after trial, or without giving the plaintiff sufficient advance notice to enable her to call the motion for a preliminary injunction for hearing.

The trial was in open court. After due deliberation, the court decided the ordinances of the City Council of the City and County of Denver to be consistent with the trust empowered upon the Council to preserve dedicated park land within the borders of Denver. The defendants were then authorized to proceed with the widening of Colorado Boulevard utilizing dedicated park land as proposed.

Suit was appealed to the Supreme Court of the State of Colorado by Mrs. Madaline M. Welch, "Plaintiff in Error", against the City and County of Denver and the State Highway Commission of the State of Colorado to have the ordinances declared null and void on the grounds that City Council did not have the authority to take dedicated park land for other than park purposes under existing statutes and common law.

The further allegations of the plaintiff were that the greatest good for the greatest number of people as well as the public health, welfare and safety were not being served by the ordinances, and that the ordinances violated:

- a. The basic City Planning concept of the preservation of dedicated park land;
- b. the inviolability of dedicated park land; and
- c. the consideration of available and reasonable alternates which should have been investigated before consideration was given to the encroachment upon dedicated park land.

The plaintiff has contended in the Supreme Court that error was committed in the Lower Court, and that the judgment given by that court should be reversed. It was stated in

the brief that ordinances by City Council under the present charter did not have legal standing and that work should have been delayed until there had been a decision by the electorate of the City and County of Denver.

A point made by the plaintiff is that the City Council may not, according to the City Charter, sell or lease land dedicated to park purposes. And it was then contended that the action by City Council was, to all intents and purposes, a sale or lease. On the other hand, the defendant claimed that an easement only had been granted. It is understood that the City bargained with the State Highway Department and was to receive eight thousand dollars, which sum was a consideration in return for the City granting the additional land, or an interest in the land, to the State Highway Department for use as a thoroughfare. It appears also, as mentioned in the foregoing, that this amount may be used to purchase nursery stock to compensate for the loss of the two rows of American Elms.

As said before, we, as citizens of Denver, are vitally interested in our city and its services, including the thoroughfares, and we hope that the beauty of our parks and their usefulness can be maintained, and even bettered. We do not want to stand in the way of progress, but we are concerned that the action on Colorado Boulevard at City Park may constitute a precedent for similar violations of dedicated park land. We fear that our lovely Berkeley Park area and its lake will be reduced to but a small segment of its present size if presently considered plans are carried out. We respectfully appeal to the people of our fair city to be on guard against actions which do not consider all alternatives and which emphasize improvement in the arterial highway scheme, and which may tend to disregard the usefulness and beauty of our dedicated park lands.



Question: I recently received a potted azalea plant as a gift; can you give me some pointers on how to care for it?

Answer: Azaleas prefer a cool place, but must have some sun. They like to be kept moist, and the leaves should be sprayed occasionally with clear water. They are subject to red spider, so watch for this pest. Spraying the leaves is a preventive measure. Since azaleas like acid soil, they seem to benefit from an occasional watering with a solution of a teaspoon of vinegar to a quart of water. In the summer the pot may be sunk in the soil in the shade and returned to the house in the autumn. With good care, your azalea should bloom again and can be maintained for a long time.

Question: My neighbor uses the branches from her Christmas tree as a mulch on her tulip bed. Is this a good idea?

Answer: Yes, branches from the Christmas tree make a good mulch for the tulip bed. They keep the soil from warming up too early, re-

sulting in too quick growth and loss of bloom. They are useful for mulching perennial beds, too.

Question: Could you give me the names of persons to contact about joining a garden club or plant society in our area?

Answer: The following is a list of persons to contact for the major garden groups:

Colorado Federation of Garden Clubs — Mrs. D. W. Viles, Durango; Mrs. C. C. Buckbee, 4190 Depew, Denver

Men's Garden Club of Colorado — Arnold Perreten, 821 Adams, Denver

Rose Society — Herbert C. Gundell, Westside Court Building, Denver

Iris Society — Charles P. Gordon, 414 Eudora, Denver

Gladiolus Society — W. H. Yarger, 12,500 Morrison Road, Denver

Cactus Society—Mrs. A. L. Chambers, 850 Kearney, Denver

Orchid Society — Gilman C. Daggett, 1260 Holly, Denver

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Garden Club Briefs

MRS. EDMUND WALLACE, *Federated Garden Clubs*

The Regional Meeting of the National Council of Garden Clubs was held in Denver, October 16th, at the Shirley-Savoy Hotel. All seven states were represented. These included Wyoming, Montana, Utah, Nebraska, Kansas and South Dakota. Mrs. George Card, Chairman of the event, was ably assisted by Mrs. F. S. Mattocks, Co-Chairman. One of the honors for Colorado was the election of Mrs. C. C. Buckbee as Auditor for the Region, a new post created at this meeting. Mrs. Daniel Mooney, past president of the National Council of State Garden Clubs, is now working on the support and endowment of the permanent home of the National Council of State Garden Clubs, in St. Louis, Missouri. She suggested, at this Annual Meeting, that each Garden Club donate one dollar (\$1.00) a year to the home, so that in four, or five years, the interest from this fund would completely cover the maintenance costs of this worthy project. Let's do some serious thinking regarding this suggestion.

We are all delighted that Mrs. John Nickels was able to take a "few books" and go off to the northwest on a much deserved vacation at the conclusion of the Convention at Idaho Springs. The fact that she was elected president of Judges Council for the following year, means that she will soon be back on the job again with her own special brand of enthusiastic dedication to whatever task she undertakes. Mrs. Jeanette G. George of Boulder, is to be Secretary-Treasurer for the group.

The Columbine Garden Club members of Idaho Springs, under the handicap of an unseasonal snow storm, were ideal hostesses for the Annual State Convention of Garden Clubs held in their city September 29, 30, and October 1. The many thoughtful services, recognition of those who have long given of their time and ability without reward or favor, beautifully planned decorations and souvenirs, as well as the Convention planning itself, was done in such a fine way that those who were forced to cancel their reservations felt deprived of a special experience in Garden Club Conventions. Please take a bow, all you wonderful Idaho Springs Garden Clubbers.

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CORYELL'S GREEN HOUSES

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Mrs. F. C. Vetting has announced the following new Life Members to Membership in the Colorado State Federation of Garden Clubs:—

Mrs. E. R. Abbott, Littleton
Mrs. C. C. Buckbee, Denver
Mrs. Glenn Clayton, Englewood
Mrs. W. A. Crabtree, Denver
Mrs. J. B. Delano, Denver
Mrs. H. D. Duston, (deceased),
Lakewood
Mrs. Owen Goodspeed, Aurora
Mrs. C. A. Hedburg, Denver
Mrs. E. F. Hennessy, Arvada
Mrs. T. L. Lewis, Arvada

Mrs. L. T. Mickle, Denver
Mrs. John Nickels, Littleton
Mrs. Albert Petrick, Englewood
Mrs. W. Ed Searle, Aurora
Mrs. G. A. Seastone, Englewood
Mrs. John Scott, Englewood
Mrs. S. A. Turner, Denver
Mrs. Peter Van Uithoven, Denver
Mrs. R. C. Wilson, Englewood
Mrs. J. L. Woodman, Englewood

It is with great pleasure that I introduce to you your new "Garden Briefs" correspondent, the former Editor of *Colorado Composters*, Mrs. John Scott of Englewood. May she enjoy the association with the Editorial Committee of *The Green Thumb* as much as I have.



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SHOPPING FOR
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IN APPRECIATION OF RAY T. MILLER

By M. WALTER PESMAN



YOU could always depend on Ray Miller! We hear a great deal these days of "featherbedding", and we have seen some of it ourselves. I could only wish that those who are suspicious, — and the guilty ones as well, could have known Ray in his work, and in his attitude. He would always do his job well and conscientiously. Many of his horticultural accomplishments bear witness to his thorough way of doing things.

I first knew him as superintendent of Berkeley Park, at that time one of the outlying parks. He carried out many of the improvements planned by the newly appointed Parks landscape architect, S. R. DeBoer. Both worked together for at least thirty years on the Denver Park System. Ray became superintendent of City Park, later he was in charge of the western division of all city parks. Whatever job was given him to do, everybody knew it was going to be done promptly and properly, and with full knowledge

of our unusual conditions of Rocky Mountain horticulture.

He became an expert on transplanting and on collecting native plant material. He'd always do just a little more than might be reasonably expected of him.

Born in Springfield, Kansas, he moved to Denver in 1905 at the age of twenty-six. His was a happy family. The two sons soon made a place for themselves, even if they did not remain with horticulture. His wife was active in many civic affairs.

When the Roadside Development program was initiated in Colorado, both Mr. Vail, the Highway engineer, and I, as landscape engineer, wanted Ray to take an active part as foreman and supervisor on the new jobs; a man was needed here who was familiar with nursery stock, including native plants, who could read blueprints with full understanding of what was planned, and who could deal with the public in many ways. Highway engineers are not always familiar with plants and their requirements. People adjoining roadside projects could not always see why they should cooperate in giving easements. Nursery contractors needed to be shown that the State Highways wanted to be fair and live up to specifications.

The new landscape supervisor soon showed that he could make friends with all, and gain their respect and understanding.

At times he had to carry out certain plans and specifications with his own crew. I remember one particular job in which he superintended the collecting, balling and burlapping of over a hundred rather large ponderosa pines in the midst of winter. They were planted just north of the Blake-

land underpass: only one or two failed to survive the difficult ordeal. To this day they bear witness to his skill and know-how.

After the roadside program was discontinued, due to the war, Mr. Miller was wanted at various jobs where his skills, horticultural knowledge, and his enormous capacity for work were needed.

Not until recently was he willing to concede that a man approaching eighty ought not to attempt the physical labors of a younger man. Even then,

he went on an arduous fishing trip after being an octogenarian!

To many of us, interested in horticulture, Ray Miller represents a symbol. If only we could train a hundred men in his attitude and pass on to them his knowledge of practical plant methods, we'd feel safer about the future of horticulture in the Rocky Mountain region. He has made a place in Denver and Colorado for himself, that will survive, and that will serve as an inspiration for all of us who strive for the best in horticulture.

COLORADO GARDEN SHOW

APRIL 1 - 10 - 14
DENVER COLESEUM



Mrs. Nickels and Mrs. Honnen discuss plans on how the Garden Show will be arranged in the scale model of the Denver Coliseum.

The entire show will be planned and staged in the scale model so that everything will be in readiness for the actual show in April.

PRELIMINARY plans and drawings for the Spring Garden Show have been accepted by the Show committee. From the preview of these plans it is easy to see that the residents of this area are in for a garden extravaganza second to none. The committee has accomplished the basic ground work for this spectacular show and is now ready to proceed with the additional planning and staging necessary to make it a reality in April.

Featuring today's outdoor living, this show promises to be a great boon to gardening in the Rocky Mountains. Its success depends on the enthusiasm and cooperation of all the various gardening groups in the area. Your Association, confident of its success and recognizing its great educational value, is co-sponsoring this show with the Botanic Gardens. We urge you, as a member, to give it your enthusiastic approval and to pass the word on to your friends.

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Seasonal Suggestions

This is the month of Evergreens. Their color and place in the landscape bridge the winter gap between summer and spring. At this season they are not only the dominant feature in the garden, but in the home as well, when they stand bedecked with tinsel and lights at Christmas. This is their shining hour. Theirs is the symbol of Christmas.

It is also a time for gardeners to relax, that is if you haven't forgotten to hill up your roses or haven't had time to plant your spring flowering bulbs. Of course, Christmas preparations will take up some of the slack time, but a good gardener should find some time for reading, now and in the wintery months ahead. This is a gentle reminder that, as a member of the Association, you have lending privileges at the Helen Fowler Library at 909 York Street. This excellent library contains a great many books on all phases of gardening, and is open Monday through Friday from 8:30 a.m. to 5 p.m. Whether you are interested in roses or iris, bugs or plant diseases, landscaping or rock gardens, you will find an appropriate book in our library.

To make your Christmas shopping easier, here are a few suggestions for your gardening friends. "The Green Thumb," itself, makes an excellent gift for the new home owner or novice gardener. Just use the gift blank on page 350 in this magazine. Good books on gardening, such as George Kelly's "Good Gardens in the Sunshine States", are welcome gifts. Your local garden shop is well stocked with tools and gimmicks that will make a hit with the weekend gardener. For the hard-to-please you will find gift certificates available at most of the nurseries and garden centers.

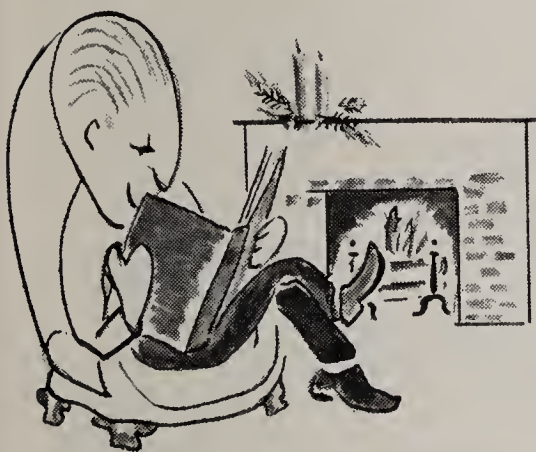
House plants become more noticeable and attractive now that outdoor plants have faded from the limelight. Like the plants in our gardens, they need some attention if they are to perform well. The addition, about once a month, of a soluble fertilizer to their water will take care of their mineral requirements. Check them occasionally for aphids and mealy bugs. If only a few are present, they can be removed with a cotton swab and alcohol. However if there is a heavy infestation, take them outside on a warm day (60-70°) and spray with malathion. Frequent syringing or spraying of the foliage is beneficial to most house plants. Take care not to overwater plants in ceramic or plastic



MERRY CHRISTMAS



CHRISTMAS GIFTS



WINTER READING





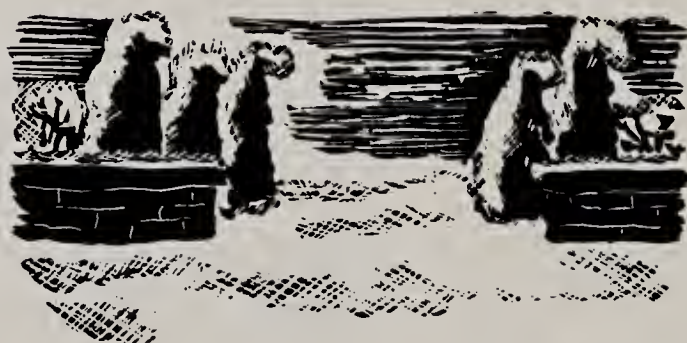
FOR THE BIRDS

containers without drainage. Small quantities of charcoal in the bottom of such containers helps keep the soil sweet.

While many of our birds have gone south for the winter, we find that many have taken up winter quarters here. When the weather is good, they seem to forage pretty well for themselves, but when snow covers the ground they are often hard pressed for food. Set up a bird feeding station in your yard and enjoy the antics of the different feathered personalities who come to take advantage of your winter hospitality. Some of the foods recommended for such a feeding station are: suet and fatty trimmings from meat; seeds of sunflower, pumpkin, millet, rye, barley, wheat, and numerous weed seeds. Most of the garden shops now carry mixed seeds for wild birds. In addition bread crumbs, popcorn, and nuts are welcome tidbits for the birds. Once you start a feeding station keep it filled. Birds learn to rely on finding food there and will suffer when you neglect it.

One word in regard to the weather, if it should stay dry for any long period of time, 3 to 4 weeks, get out the hose and give everything, particularly the evergreens, a good soaking.

Merry Christmas and a Happy New Year—
—PAT.



Can you think of a better gift for a new gardener or old than George Kelly's book, **HOW TO HAVE GOOD GARDENS IN THE SUNSHINE STATES?** It will be used and appreciated for many years.

Available at Botanic Gardens House, at book stores, or from the author at the **COTTONWOOD GARDEN SHOP**, 4849 South Santa Fe Drive, Littleton.

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In Our Library!

Christmas Lighting and Decorating—Outdoors and Indoors, Theodore Saros. Van Nostrand.

"Here is a store house of ideas and suggestions the whole family can enjoy in preparing home Christmas decorations both outdoors and indoors."

"Tips for competing in Christmas lighting display contests are given and helpful hints on photographing decorations are included."

"Decorating projects utilize traditional materials but also emphasize the unusual." Publisher.

Christmas Idea Book, Dorothy Biddle and Dorothea Blom.

Interesting use of traditional Christmas materials and some other plant materials in arrangements and decorations for tables, mantels, doorways, and Christmas wreaths and trees.

Decorating with Pods and Cones, Eleanor Van Rensselaer. Van Nostrand.

Selection, preparation and use of pods, seeds, cones, berries, nuts, the dried bough, bark, lichen, and burr in original and interesting home decorations.

Old Roses for Modern Gardens, Richard Thomson. Van Nostrand.

An interesting and scholarly history and description of the old roses of Europe and the Orient with an evaluation of the old varieties the author has grown. Appendices list roses for special purposes; the top 30 old roses from Will Tillotson's collection of 150 and growers of old roses in the United States.

The Complete Book of Gardening and Lawn Care, Will Peigelbeck. Random House.

This book is arranged so that "you start with the site itself, learn about soils and plant foods, then go on to lawns, different flowers, shrubs and trees, and fruits and vegetables. After this comes discussion of special points, such as controlling insects and growing your own plants from seeds and cuttings." Author's Foreword.

—E.T.L.

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and

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